

Chapter : 12 Emergency Response and Recovery

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Stage 1 – Identify Desired Results

Established Goals

After completing this unit, students will...

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.

Essential Questions

<p>1.1 What are potential driver errors that could ultimately turn into an emergency response?</p> <p>1.2 How can weather conditions affect vehicle control and tire traction?</p> <p>1.3 What are the proper procedures to effectively respond to an emergency involving driver error or adverse weather conditions?</p>	<p>2.1 How can vehicle maintenance and/or malfunction result in an emergency situation?</p> <p>2.2 What are the proper procedures to effectively respond to common vehicle malfunction emergencies?</p> <p>2.3 What current technologies are available that enhances our abilities to respond more effectively to vehicle emergencies?</p>	<p>3.1 What are the necessary procedures for safely responding to a vehicle breakdown?</p> <p>3.2 What are the necessary procedures for properly managing and protecting an accident scene?</p> <p>3.3 What are your legal responsibilities when involved in an accident?</p>
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Desired Understandings

<p>1.1 There are a number of driver errors that could potentially result in an emergency situation.</p> <p>1.2 How to prepare for driving emergencies that can be caused by adverse weather conditions.</p> <p>1.3 Employing effective response procedures can aid in assessing and responding to a driver error or weather related emergency.</p>	<p>2.1 Vehicles can malfunction without warning, and drivers must be prepared to respond safely.</p> <p>2.2 The proper procedures to effectively respond to common vehicle malfunction emergencies.</p> <p>2.3 How to properly employ current technology systems intended to prevent, or help keep drivers safe, during a driving emergency.</p>	<p>3.1 The proper steps employed to respond to a vehicle breakdown.</p> <p>3.2 The necessary procedures to properly manage and protect an accident scene.</p> <p>3.3 A driver’s legal responsibilities and requirements when involved in a vehicle accident.</p>
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Key Knowledge and Skills		
Students will know...		
<p>1.1 the potential driver errors that could trigger an emergency response.</p> <p>1.2 how adverse weather conditions may affect traction and other vehicle controls.</p> <p>1.3 the proper procedures to effectively respond to driver error and weather related emergencies.</p>	<p>2.1 the common vehicle malfunctions that may result in a driving emergency.</p> <p>2.2 the procedures employed to effectively respond to vehicle malfunction emergencies.</p> <p>2.3 how current vehicle technology can help prevent, or assist drivers more effectively in, a driving emergency.</p>	<p>3.1 the appropriate steps employed to safely secure a vehicle when a breakdown or accident occurs.</p> <p>3.2 the proper procedures employed to effectively manage and protect an accident scene.</p> <p>3.3 a driver's legal responsibilities and requirements when involved in a vehicle accident.</p>
Students will be able to...		
<p>1.1 identify driver errors that could trigger an emergency response.</p> <p>1.2 identify and assess various adverse weather conditions and how they impact tire traction and vehicle control.</p> <p>1.3 discuss and demonstrate the vehicle control and emergency response techniques employed when responding to an emergency involving driver error or adverse weather conditions.</p>	<p>2.1 identify the common vehicle malfunction driving emergencies.</p> <p>2.2 describe the proper procedures used when responding to common vehicle malfunction driving emergencies.</p> <p>2.3 properly employ current vehicle safety technology designed to prevent, or assist drivers during, vehicle emergencies.</p>	<p>3.1 list, and explain the importance of, the steps necessary to safely respond when a vehicle breaks down.</p> <p>3.2 identify the procedures necessary to effectively manage and secure an accident scene.</p> <p>3.3 explain their legal responsibilities when involved in a vehicle accident.</p>
Audience		
This unit is designed for high school driver education students, ages 16-18, who are enrolled in a Driver and Traffic Safety Training Course.		

Stage 2 – Determine Acceptable Evidence		
Goal 1	Goal 2	Goal 3
Performance Tasks		
<p>News Research Activity - Students will demonstrate an understanding of how driver error and adverse weather conditions have contributed to driving emergencies based on research they compile using news stories related to vehicle emergencies.</p> <p>Class Discussion – Students will demonstrate their ability to apply emergency response strategies through their contributions to a consensus listing of response strategies for the emergency conditions noted.</p>	<p>Internet Search Student will research and document how technology can be designed and employed to assist in avoiding or responding to vehicle failure emergencies.</p> <p>Class Discussion – Students will demonstrate their awareness of potential vehicle system failures and possible response strategies by contributing to the development of a class consensus listing.</p> <p>Short Quiz - Students will demonstrate their knowledge of potential vehicle system failures and the most effective response strategies by successfully completing a written quiz on those topics.</p>	<p>Class discussion & Brainstorming The students will identify common causes of vehicle breakdowns and brainstorm the appropriate steps to take when they occur.</p> <p>Accident Scene Pre and Post Tests - Students will demonstrate their initial and resulting awareness and knowledge of a driver’s responsibilities in responding to an accident scene that involves an injury, fatality, or damage to property, by successfully completing a written pre and post-test on those topics.</p>
Other Evidence		
<p>BTW Activity –The student will demonstrate the ability to discuss and apply the emergency response concepts learned when presented with practice activities designed to simulate an emergency condition during an in-car driving session.</p>	<p>BTW Activity - Students will apply the skills and strategies learned by successful participation in the accompanying in-car driving session.</p>	<p>BTW Activity – The student will be able to successfully demonstrate the ability to perform a roadside tire change.</p>
Student Self-Assessment and Reflection		
<p>Journal Activity Students will reflect on, and write about, the techniques they have learned in this lesson in relation to their own experiences or sample emergencies incidents.</p>	<p>Journal Activity The students will reflect on the concepts presented and compile a list of best practices that might have been used to respond to a vehicle failure emergency scenario.</p>	<p>Sharing Personal Experiences In this activity students will be given the opportunity to reflect on an accident or a vehicle breakdown they are aware of.</p>

Stage 3 – Plan Learning Experience		
	Activity	W, H, E1, R, E2¹
Goal 1	1.1 Newspaper Research 1.2 Class Discussion 1.3 Presentation & Class Discussion 1.4 Supporting Video 1.5 Self-Reflection and Journal Activity 1.6 Supporting BTW Activity	W, H, E2 W, H E1, R, E2 W, H, R, E1 W, H,R, E1 W, H, E1 W, R, E2
Goal 2	2.1 Internet Search 2.2 Small Group Work 2.3 Class Discussion 2.4 Presentation 2.5 Short Quiz 2.6 Self-Reflection and Journal Activity 2.7 Supporting BTW Activity	W, H, E2 W, H, ER, E2 W, H E1, R, E2 W, H, E1 E2 W, R, E1 W, H, E1, R, E2
Goal 3	1. Class discussion & Brainstorming 2. Accident Scene Pre-Test 3. Classroom Sharing Activity 4. Presentation & Class Discussion 5. Law Enforcement Speaker 6. Accident Scene Post Test 7. Supporting BTW Activity	W,H,E1,R,E2 W,E1,E2 W, E1, R W,H,E1, W,H E1 E2 W,E1,E2
Technology/Resources		
Internet Access, Ability to Project Slides/Videos, Black/White Board or Easel, Notepads, Student Notebook, Student Journals		

¹ **W,H,E1,R,E2 – an acronym for considering and self-assessing the key elements and logic of a learning plan.**

W: Where – ensuring that the student sees the big picture, has answers to the “why?” questions, knows the final performance expectations

H: Hook – immersing the student immediately in the ideas and issues of the unit, engaging the student

E1: Equip and Experience – providing the student with tools, resources, skills and information needed to achieve the desired understandings and accomplish the performance tasks

R: Rethink – enhance understanding by shifting perspective, considering different theories, challenging prior assumptions, introducing new evidence, providing the opportunity to revise/polish prior work

E2: Evaluate – ensuring that students get diagnostic and formative feedback and opportunities to self-assess and self-adjust

12.1 Minimizing Risk and Responding to Emergencies Resulting from Driver Error

Section Goal:

After completing this lesson the student will be able demonstrate an understanding of strategies to minimize and respond to emergencies resulting from driver error and or adverse weather conditions.

Essential Questions:

1. What are potential driver errors that could ultimately turn into an emergency response?
2. How can weather conditions affect vehicle control and tire traction?
3. What are the proper procedures to effectively respond to an emergency involving driver error or adverse weather conditions?

Desired Understandings:

1. There are a number of driver errors that could potentially result in an emergency situation.
2. How to prepare for driving emergencies that can be caused by adverse weather conditions.
3. Employing effective response procedures can aid in assessing and responding to a driver error or weather related emergency.

Key Knowledge and Skills:

Students will know...

1. the potential driver errors that could trigger an emergency response.
2. how adverse weather conditions may affect traction and other vehicle controls.
3. the proper procedures to effectively respond to driver error and weather related emergencies.

Students will be able to...

1. identify driver errors that could trigger an emergency response.
2. identify and assess various adverse weather conditions and how they impact tire traction and vehicle control.
3. discuss and demonstrate the vehicle control and emergency response techniques employed when responding to an emergency involving driver error or adverse weather conditions.

Learning Experience Outline (items in bold represent assessment activities):

2.1 Newspaper Research	W, H, E2
2.2 Class Discussion	W, H E1, R, E2
2.3 Presentation & Class Discussion	W, H, R, E1
2.4 Supporting Video	W, H,R, E1
2.5 Self-Reflection and Journal Activity	W, H, E1
2.6 Supporting BTW Activity	W, R, E2

Chapter 12.1 Learning Experience Activities:

1. Newspaper Research – (completed outside of class in preparation)

The objective of this assignment is to illustrate the frequency and causes of accidents that are related to driver error or poor decisions made while driving in adverse weather conditions.

- *Materials/Resources/Technology:*
 - *Blackboard, Whiteboard or easel, sample news articles (online or local paper), assignment sheet.*

Instructions: Prior to class have the students research a news story about a reported collision that was caused by driver error, and/or adverse weather conditions, from a newspaper or reliable online news source. Have the students bring the article to class and be ready to discuss the primary cause of the accident and the steps the driver might have taken to minimize the risk or impact of the collision.

2. Class Discussion

The newspaper research, as well as, information related to the frequency of accidents will generate thought regarding how to prevent driver error related collisions.

- *Materials/Resources/Technology*
 - *Blackboard, Whiteboard or easel*

Instructions: The instructor facilitates a class discussion that focuses on the frequency and common causes of driver error and weather related accidents. Using the findings that students share from their research, along with published data, generate a list of driver errors and common causes of vehicle emergencies. Supplement the student research, as needed, to ensure that the resulting list includes common driver error, as well as, weather and traction related emergencies. As the list is compiled, discuss each emergency and what potential actions can be taken to minimize the risk in each situation. Add the response practices identified to the list for each of the emergencies. Provide and discuss current statistics related to the frequency of this type of accident.

3. Presentation & Class Discussion

Building on the emergency response concepts illustrated in the class discussion, provide a brief presentation which explains and illustrates the key knowledge and skills related to driver error and emergency response targeted.

- **Materials/Resources and Technology needed:** a means to present digital slides and videos, Internet access, Slides and/or Videos focused on Visual Space and Following Distance (see sample resources)

Instructions: Provide a presentation detailing the specific causes, and recommended responses, for driver error and weather related crashes. The presentation should include the 3 controls drivers have control of (acceleration, steering and braking), anticipating and responding to a loss of traction, types of collisions, minimizing the risk of a collision, use of evasive steering and braking in an emergency, and other strategies and procedures employed to reduce risk and maintain control in an emergency situation. Have the students record the compiled list and frequency data from the

class discussion, as well as, the response strategies information from the presentation in their notebooks.

4. Supporting Video

Having the students view videos that illustrate emergencies that can result from driver error and/or adverse weather and illustrating strategies used to respond and reduce risk and impact, will serve to reinforce the concepts and strategies included in the presentation.

- *Materials/Resources/Technology*
 - *Internet Connection, Screen. Projector and/or DVD, VCR Player*

Instructions: instructor will show a video(s) of the common driving emergencies. The video should include proper procedures for correctly responding to both weather related and driver error emergencies. (see sample resources for examples)

5. Self-Reflection and Journal Activity

Many new, as well as, experienced drivers have faced a driving emergency at some point in their life. Have the students begin to think about an emergency they, a family member, or a friend may have encountered to begin reflecting on possible causes, as well as, responses they might employ based on what they have learned.

- *Materials/Resources/Technology*
 - *Student journal, Pen*

Instructions: Have the student's record in their journals the emergency they have faced as either a witness or participant, and reflect on what corrective actions or preventative measures could have been taken to minimize the risk.

6. Supporting BTW Activity

It is important for all young drivers to understand the basic three controls they have over their car at all times (steering, braking, acceleration), and the effect those controls have on preventing or minimizing the risk of an emergency.

Instructions: During the behind the wheel session the instructor will review the three basic vehicle controls (steering, braking and acceleration) and their importance during a driver error related emergency. Evasive actions including steer right, steer left, brake and hold, and emergency acceleration should be reviewed, demonstrated, and practiced. This juncture also provides the opportunity to reinforce the car maintenance and fluid checks from previous lessons that play a key role in weather or traction related emergencies.

12.2 Preventing and Responding to Vehicle Failure Related Emergencies

Section Goal:

After completing this lesson the student will be able to understand and demonstrate the ability to appropriately assess and respond to a vehicle failure emergency

Essential Questions:

- 2.1 How can a vehicle maintenance and/or malfunction result in an emergency situation?
- 2.2 What are the proper procedures to effectively respond to common vehicle malfunction emergencies?
- 2.3 What current technologies are available that enhances our abilities to respond more effectively to vehicle emergencies?

Desired Understandings:

- 2.1 Vehicles can malfunction without warning, and drivers must be prepared to respond safely.
- 2.2 The proper procedures to effectively respond to common vehicle malfunction emergencies.
- 2.3 How to properly employ current technology systems intended to prevent, or help keep drivers safe, during a driving emergency.

Key Knowledge and Skills:

Students will know...

- 2.1 the common vehicle malfunctions that may result in a driving emergency.
- 2.2 the procedures employed to effectively respond to vehicle malfunction emergencies.
- 2.3 how current vehicle technology can help prevent, or assist drivers more effectively in, a driving emergency.

Students will be able to...

- 2.1 identify the common vehicle malfunction driving emergencies.
- 2.2 describe the proper procedures used when responding to common vehicle malfunction driving emergencies.
- 2.3 properly employ current vehicle safety technology designed to prevent, or assist drivers during, vehicle emergencies.

Learning Experience Outline (items in bold represent assessment activities):

2.1 Internet Search	W, H, E2
2.2 Small Group Work	W, H, ER, E2
2.3 Class Discussion	W, H E1, R, E2
2.4 Presentation	W, H, E1
2.5 Short Quiz	E2
2.6 Self-Reflection and Journal Activity	W, R, E1
2.7 Supporting BTW Activity	W, H, E1, R, E2

Chapter 12.2 Learning Experience Activities:

1. Internet Search

In preparation for this class session, have students complete an internet search on a modern vehicle technology designed to assist drivers, in avoiding, or during a vehicle emergency.

- *Materials/Resources/Technology*
 - *Computer with Internet Connection, Pen and Notebook*

Instructions: In the class preceding this lesson, instruct the students to research different modern driving technologies designed to assist them in a driving emergency as part of a homework assignment. Have students record the name of the technology and a brief description on how it keeps drivers safe. Have students use their results in the class discussion activity prior to submitting it to be graded. (Note - the instructor may wish to provide an assignment sheet which suggests possible search sites and includes probing questions.)

2. Small Group Work

Begin the class by having students brainstorm on response strategies for a specified vehicle failure.

- *Materials/Resources/Technology*
 - *Index Card detailing vehicle failure scenarios, Pad and Pen*

Instructions: Divide the class into small groups. A group leader will be identified and provided a card with the name of a vehicle malfunction driving emergency. The group will be tasked with compiling a list of steps to help safely respond and minimize the risk of the emergency. This list will be used as a part of the class discussion activity.

3. Class Discussion

As the small groups report their findings to the class, students will reflect on the strategies and responses identified and compile a consensus list of appropriate emergency strategies and responses

- *Materials/Resources/Technology*
 - *Blackboard or Whiteboard, or easel*

Instructions: Have the group leaders present their emergency to the class with the group's list of effectively response procedures. The instructor will facilitate a class in a discussion on the effectiveness of each group's proposals. As the class comes to consensus, the teacher will list the steps for handling that emergency on the board.

4. Presentation and Class Discussion

Building on the emergency response strategies and concepts discussed in the opening activities, the Teacher will provide a brief presentation which explains and illustrates the key knowledge and skills targeted.

- **Materials/Resources and Technology needed:** a means to present digital slides and videos, Internet access, Slides and/or Videos focusing on driving strategies for responding to vehicle failure emergencies. (see sample resources), student notebooks

Instructions: The instructor will provide a presentation on vehicle malfunction emergencies. This presentation should include information on common vehicle malfunction emergencies and how to safely and effectively respond. An overview of current technology innovations and engineering should also be included. Have students record the key concepts from this presentation in their notebooks.

5. Short Quiz

Assess the knowledge and skills the students are taking from this lesson by having the students complete a short quiz focusing on the key concepts and skills conveyed.

- **Materials:** teacher constructed brief quiz. (See sample resources for an example)

Instructions: Administer a brief quiz on the causes and responses to common vehicle failure emergency concepts from this lesson. When you grade and return the quiz, review the correct responses and respond to any student questions or misunderstandings.

6. Journal Activity

Students will be asked to reflect on a vehicle malfunction emergency that they or a family member may have witnessed or actually been involved with. As an alternative, the instructor can provide a sample incident for reflection and analysis.

- *Materials/Resources/Technology*
- *Student journal and a pen*

Instructions: Have the students reflect on a time when they, or someone they knew, were involved in a vehicle malfunction emergency. (An alternative may be to have the instructor provide a sample incident.) Have the student record in their journal what steps were taken to minimize the risk at the time, and how they might employ what they have learned in this lesson to respond to that scenario.

7. Supporting BTW Activity

During the BTW driving session the instructor will explain the controls and systems that frequently fail and cause an emergency response.

Instructions: The instructor will explain to the students the systems and controls that may fail and cause an emergency. The instructors will also reinforce the responses taught in the presentation. The lesson should also reinforce previous lessons concerning important fluid checks before driving (ie, power steering fluid, brake fluid, antifreeze and oil). A brief lesson on stopping the car with the emergency brake at very low speeds (10 mph or less) may also be included in this lesson.

12.3 Practices and Procedures for Effectively Managing a Roadside Breakdown or Accident Scene.

Section Goal:

After successfully completing this lesson students will be able to demonstrate an understanding of the practices and procedures required to safely and effectively manage a roadside breakdown or accident scene.

Essential Questions:

- 3.1 What are the necessary procedures for safely responding to a vehicle breakdown?
- 3.2 What are the necessary procedures for properly managing and protecting an accident scene?
- 3.3 What are your legal responsibilities when involved in an accident?

Desired Understandings:

- 3.1 The proper steps employed to respond to a vehicle breakdown.
- 3.2 The necessary procedures to properly manage and protect an accident scene.
- 3.3 A driver's legal responsibilities and requirements when involved in a vehicle accident.

Key Knowledge and Skills:

Students will know...

- 3.1 the appropriate steps employed to safely secure a vehicle when a breakdown or accident occurs.
- 3.2 the proper procedures employed to effectively manage and protect an accident scene.
- 3.3 a driver's legal responsibilities and requirements when involved in a vehicle accident.

Students will be able to...

- 3.1 list, and explain the importance of, the steps necessary to safely respond when a vehicle breaks down.
- 3.2 identify the procedures necessary to effectively manage and secure an accident scene.
- 3.3 explain their legal responsibilities when involved in a vehicle accident.

Learning Experience Outline (items in bold represent Assessment Activities):

3.1 Class discussion & Brainstorming	W,H,E1,R,E2
3.2 Accident Scene Pre-Test	W,E1,E2
3.3 Classroom Sharing Activity	W, E1, R
3.4 Presentation & Class Discussion	W,H,E1,
3.5 Law Enforcement Speaker	W,H E1
3.6 Accident Scene Post-Test	E2
3.7 Supporting BTW Activity	W,E1,E2

Chapter 12.3 Learning Experience Activities:

1. Class Discussion & Brainstorming – When a Breakdown Occurs

This activity is designed to focus student thinking on the common procedures employed when responding to a vehicle breakdown; including protecting and securing the scene.

- *Materials/Resources/Technology*
 - *Blackboard, White board, or Easel*

Instructions: The Instructor will begin by asking the students to name some of the most common vehicle systems breakdowns. Compile a list of the examples offered by students and supplement as needed to create in a comprehensive list. Using the list as a reference, facilitate a brainstorming discussion focused on steps a driver should take to safely respond when a breakdown occurs, including protecting and securing the scene. Add these procedural responses for each incident on the compiled list.

2. Accident Scene Pretest

Administer a brief pre-test to assess students' prior knowledge regarding a driver's responsibilities in responding to an accident scene that involves an injury, fatality, or damage to property.

- *Materials/Resources/Technology*
 - *Pre-test and a Pen*

Instructions: Administer a short pre-test focused on responsibilities and responses employed when an accident occurs. Include questions regarding NY State Vehicle Law and reporting to the proper authorities. After collecting the completed pre-tests, review the questions with the students to gauge their prior learning and clarify their understanding regarding a driver's responsibilities when an accident occurs.

3. Sharing Personal Experiences

In this activity students will be given the opportunity to reflect on an accident or a vehicle breakdown they were involved in, to facilitate a discussion regarding responsibilities and effective responses

- *Materials/Resources/Technology*
 - *Student volunteers*

Instructions: Have student volunteers share a personal experience with an accident or vehicle breakdown. Prompt the student to include how it occurred and what they did to manage the situation. Facilitate a discussion regarding the incident and, as needed, discuss actions that might have been employed to effectively respond and/or secure and protect the resulting scene.

4. Presentation & Class Discussion

Building on the emergency response strategies and concepts discussed in the opening activities, the Teacher will provide a brief presentation which lists and explains the critical actions and responsibilities associated with a vehicle breakdown or accident.

- **Materials/Resources and Technology needed:** *a means to present digital slides and videos, Internet access, Slides and/or Videos focusing on the actions and responsibilities associated with vehicle breakdowns and accidents (see sample resources), handouts outlining procedures for “Changing a Flat Tire and “Jumping Starting a Car” (sample handouts are included in the sample resources section), student notebooks*

Instructions: The instructor will provide a presentation focusing on roadside vehicle breakdowns and how to effectively manage and secure the scene. This presentation should include information on basic road side maintenance that can be performed safely, as well as, accident scene procedures, including NY State Law regarding fatality, personal injury and property damage accidents, accident reports (MV-104), and critical information on how to secure and protect various types of accident scenes. Provide the students with handouts that outline the proper procedures for Changing a Tire and Jump Starting a Car, (sample handouts are included in the sample resources section) which the students should bring to their in-car driving session.

5. Law Enforcement Speaker

Including a presentation by a guest speaker from law enforcement will reinforce the importance and legality of the actions and responsibilities presented.

- *Materials/Resources/Technology*
- *Guest Speaker will specify the materials and technology required for the presentation*

Instructions: Instructor will introduce a guest speaker from law enforcement to discuss various topics concerning vehicle breakdowns, accident procedures and NYS law regarding fatality, personal injury and property damage accidents. A question and answer session will be provided at the end of the presentation.

6. Accident Scene Post Test

Assess the knowledge and skills the students have retained from this lesson by having them complete a short quiz focused on the key concepts and skills conveyed.

- **Materials:** *teacher constructed brief quiz. (See sample resources for an example)*

Instructions: Re-administer the pretest given at the beginning of the class period; additional questions may be included, as needed, to assess comprehension and retention of the material. When you grade and return the quiz, review the correct responses and clarify any student questions or misunderstandings.

7. Supporting BTW Activity

During the behind the wheel session students will become familiar with safe road side maintenance activities.

Instructions: The in-car session will focus on the critical steps to safely perform a tire change at the side of a roadway. Have the students perform a tire change on the driver education vehicle. This is also a good time to view the vehicle emergency kit inside the driver education vehicle and discuss what is included in a roadside emergency kit.

If time permits, or during another BTW session, review the critical steps involved with jump starting a car. Use the checklists provided in classroom for “Changing a Flat Tire” and “Jump Starting a Car” as a reference tool for these activities.

Supplemental Materials Appendices:

The following are samples of resource materials that may be used to supplement the instructional activities in this chapter.

Lesson 12.1 Newspaper Research
Lesson 12.1 List and Discuss
Lesson 12.1 Self-Reflection and Journal Activity
Lesson 12.1 Power Point Slides
Lesson 12.1 Video
Lesson 12.1 Supporting BTW Activity
Lesson 12.2 Small Group Work
Lesson 12.2 Class Discussion
Lesson 12.2 Journal Activity
Lesson 12.2 Internet search
Lesson 12.2 Power Point Slides
Lesson 12.2 Video
Lesson 12.2 Short Quiz
Lesson 12.2 Supporting BTW Activity
Lesson 12.3 Vehicle Breakdown Strategies
Lesson 12.3 Accident Scene Pre-Test
Lesson 12.3 Classroom Sharing Activity
Lesson 12.3 Power Point Slides
Lesson 12.3 Law enforcement Speaker
Lesson 12.3 Supporting BTW Activity
Procedure for Jump Starting a Car
Procedure for Changing a Flat Tire
Key Word List for Chapter 12

Lesson 12.1 Newspaper Research

Name: _____

Date _____

Instructions: Student will be asked to search through any newspaper to find an article where a collision was caused by driver error in normal or adverse weather conditions. Student should bring the article to class and be ready to answer the following questions:

What was the primary cause of the accident?

What steps could have been taken to prevent the accident?

What steps could have been taken to reduce or minimize the severity of the accident?

Lesson 12.1 List and Discuss

Instructions: As part of a classroom discussion students will be asked to compile a master list of driver error related emergencies. The list should include weather related and/or traction related emergencies. Once the teacher has compiled a master list on the board, go through each emergency, and discuss what potential actions could be taken to minimize the risk of each situation. Compile a master list of the best practices for each the emergencies.

Driver Error/Weather Related Emergencies

Actions

Emergency

Best Practice

1.

2.

3.

4.

5.

6.

7.

8.

Lesson 12.1 Self Reflection and Journal Activity

Name_____

Date_____

Instructions: Student will record in their journals an emergency that they may have faced as either a witness or as participant. Next they should reflect on what corrective actions or preventative measures could have been taken to minimize the risk of the emergency. Record these self-reflections in your journal. Be ready to discuss them with the rest of the class.

Emergency Faced

Type of Emergency

Preventative or Corrective Measures

Lesson 12.1 Power Point Slides

Instructions: Students will view a power point presentation that includes all the common driver error and weather related emergencies that they could potentially encounter while driving a motor vehicle. The presentation will also include procedures on how to properly prevent or minimize the risk of each emergency.

Emergency Response

Three Controls You Have Over Your Car

1. Steering
2. Braking
3. Acceleration

Driver Emergency Response

1. Evasive Steer Right
2. Evasive Steer Left
3. Brake and Hold
4. Accelerate

Collision Emergencies

- Head On Collision
- Intersection Collision (Side Collision)
- Rear End Collision
- Run Off Roadway

Preventing Traction Emergencies

- Increase Following Distance
- Reduce Speed
- Ride in “Tire Tracks” of Vehicle Ahead
- Abrupt Changes in Steering
- Abrupt Changes in Acceleration

Special Weather Related Problems

1. Hydroplaning- Ease off Accelerator, No brake until you gain control, Minimal Steering
2. Skidding- Counter steering (“keep the front end ahead of the rear end”)

Vehicle Traction Emergencies

1. Driver Error
 - Late Braking/Panic Stops
 - Abrupt Steering
 - Aggressive Acceleration
2. Road Condition
 - Wet Surface
 - Gravel, Sand or Uneven Pavement
 - Wet Leaves
 - Ice and Snow
3. Vehicle Condition
 - Poor Brakes
 - Uneven Tire Tread Wear
 - Tire Inflation Levels

Minimizing Risk Of a Collision

- Accelerate to avoid a rear end collision
- Avoid the Head On Collision- Steer Right!
- Drive off road rather than skid off road
- Hit stationary objects vs. moving objects
- Hit stationary objects with “glancing blows”
- Hit a soft object vs. hard object

Lesson 12.1 Video

Instructions: Students will watch a video(s) on Driver Error, Weather and or Traction Emergencies.

Driving in Bad Weather AAA- YouTube

<https://www.youtube.com/watch?v=nZ4w7enWbos>

How to Control a Skid- YouTube

<https://www.youtube.com/watch?v=YEAt27Rzb54>

Controlling a Skid- Consumer Reports- YouTube

<https://www.youtube.com/watch?v=EXEh-a-p9o>

What to do if you Hydroplane-YouTube

<https://www.youtube.com/watch?v=TdwuftIUwYY>

Driving Emergency-Run off Road AAA-YouTube

<https://www.youtube.com/watch?v=KevWgHWtvXk>

Understanding Car Crashes IIHS- YouTube

https://www.youtube.com/watch?v=yUpiV2I_IRI

Understanding Car Crashes IIHS- YouTube

https://www.youtube.com/watch?v=yUpiV2I_IRI

Lesson 12.1 Supporting BTW Activity

Instructions: It is important for all young drivers to understand the basic three controls they have over their car at all times (steering, braking, and acceleration) , and the effect each of these has on preventing or minimizing the risk of an emergency. The evasive actions of steer right, steer left, brake and hold, and emergency acceleration should be reinforced. This may also be a good time to reinforce the important car maintenance tips and fluid checks that become extremely valuable in a weather or traction related emergency.

Notes:

Lesson 12.2 Small Group Work

Instructions: Instructor will have students divide up into small groups. A group leader will be identified and handed a card with the name of a vehicle malfunction driving emergency. The group will be tasked with compiling a list of steps to help minimize the risk of the emergency. This list will be used in the next exercise; class discussion.

Vehicle Malfunction Emergencies:

- 1. Tire Blowout/ Loss of Wheel***
- 2. Stuck Accelerator***
- 3. Loss of Brakes***
- 4. Steering Failure***
- 5. Engine Overheating***
- 6. Hood Flies Up***
- 7. Loss of Headlights***

Lesson 12.2 Class Discussion

Instructions: Group leaders will present the emergency they were assigned to the class with a list of procedures necessary to handle each one. The instructor will engage the entire class in a group discussion and or debate on the effectiveness of each group's proposals. Once the group has come to a consensus, the teacher will list the steps for handling that emergency on the board.

Notes:

Lesson 12.2 Journal Activity

Name _____

Date _____

Instructions: Students will write and reflect in their journal about a time when they or someone they knew were involved in a vehicle malfunction emergency. What steps were taken to minimize the risk? What could have been done to make the situation better?

What was the emergency?

What steps were taken to minimize the risk?

What steps could have been taken to make the situation better?

Lesson 12.2 Internet Search

Name_____

Date_____

Instructions: As part of a homework assignment students will research different modern driving technologies designed to assist them in a driving emergency. The name of the technology should be recorded as well as a brief description on how it keeps the driver safe. Remind them to bring their results to class for a discussion.

Notes:

Lesson 12.2 Power Point Slides

Instructions: Students will watch and take notes on a power point presentation relating to vehicle malfunction emergencies. Included in this presentation will be information on common malfunction emergencies and how to appropriately handle each one. Also included in this presentation will be list of all the modern technologies included in new cars designed to assist drivers in various common emergencies.

Loss of Brakes

- Pump the Brakes to Build Pressure
- Shift to a Lower Gear (engine drag)
- Use the Emergency Brake
- Find a Safe Area

Vehicle Malfunction Emergencies

#1 Rule Do Not Panic!

Tire Blowout/Loss of Wheel

- Hold Wheel Firmly
- Ease Off Accelerator
- Steer Straight Ahead (counter steer)
- Do Not Brake Until Car Is Under Control
- Allow Car to slow and Use Flashers
- Pull Over in Safe Area

Engine Over Heats

- Turn off A/C
- Turn on Heat!
- Shift to Neutral – Race engine
- Pull Off the Road
- Do Not Touch Radiator Cap!
- Add Coolant/ Water when Safe
- Call for Help?

Stuck Accelerator

- Try to pry pedal up with toe
- Shift to Neutral
- Steer and Brake Gently!
- Pull Safely Off the Road

New Technology

- Anti-lock Brakes
- Traction Control
- Suspension Control
- Electronic Stability Program (ESP)
- Passive Engineering (interior and restraints)
- Tempered Glass
- Improved Headlight Projection

Other Malfunctions

Hood Flies Up/ Windshield Wiper Failure

- Roll down windows for visibility
- Pull to side of road

Headlight Failure

- Use 4 Way flashers or directional signals
- Pull off road and get help!

Lesson 12.2 Video

Instructions: Students will watch a video(s) dealing with vehicle malfunctions and new car technology.

Stuck Accelerator-AAA YouTube

https://www.youtube.com/watch?v=80CwVVuN4_c

Tire Blowout-AAA- YouTube

<https://www.youtube.com/watch?v=9LHmeuzhH4o>

How to Change a Flat Tire-AAA YouTube

<https://www.youtube.com/watch?v=ZlkzohXBxWE>

Unlocking the Mystery of Anti-lock Brakes-AAA YouTube

<https://www.youtube.com/watch?v=fEudqGL5n2Y>

Stability Control- How Does ESP Work- Bosch- YouTube

<https://www.youtube.com/watch?v=Y2uXzp2HzKg>

Lesson 12.2 Short Quiz

Instructions: Teacher will hand out a short quiz to test the students' knowledge of vehicle malfunction emergencies and how to properly handle them.

Name _____

Date _____

List the procedures for each vehicle malfunction:

Tire Blowout

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Engine Overheats

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Brake Failure

1. _____

2. _____

3. _____

4. _____

Stuck Accelerator

1. _____

2. _____

3. _____

4. _____

Lesson 12.2 Suggested BTW Activity

Instructions: The instructor will explain to the students in BTW lab the various systems and controls in a car that could break down, and result in an emergency. The instructor will also reinforce the corrective actions previously taught during the power point presentation. The lesson should also reinforce previous trainings concerning pre-driving fluid checks (ie, power steering fluid, brake fluid, antifreeze and oil). A brief lesson on stopping the car with the emergency brake at very low speeds (10 mph or less) could also be employed in this lesson.

Lesson 12.3 Vehicle Breakdown Strategies

Instructions: Instructor will quiz the students on the most common vehicle systems/controls in their car that might fail and cause a breakdown on the road. Compile a list of these student suggestions on the blackboard. Once they have compiled this list, quiz them on what steps they would take to handle each situation. Ask them how they would protect and secure the breakdown scene. Review the list and add a list of the best suggestions.

What vehicle systems and controls can breakdown?

What can be done to prevent or minimize each situation?

How would you secure and protect the breakdown scene?

Lesson 12.3 Accident Scene Pretest

Instructions: Instructor will administer a short pre-test to see what the students know about handling different types of accidents and appropriate NY Law.

Name _____

Date _____

True or False

- 1. It is a criminal violation to leave the scene of a personal injury accident. True***
- 2. It is a criminal violation to leave the scene of a fatality accident. True***
- 3. You do not have to stop if collision only involves minor damage to property. False, information must be exchanged (motorist ID #, registration and insurance)***
- 4. A dog does not count as personal property. False***
- 5. A cat does not count as personal property. True***
- 6. If someone is injured or killed the police must be notified. True***
- 7. If personal property damage is over \$1000 you have to notify the police. True***

Give 3 steps you could take to protect an accident scene:

- 8.*** _____ ***9.*** _____ ***10.*** _____

(stop close to scene and get off road, warn other drivers with cones or flares, notify law enforcement)

(NYS Driver's Manual)

Lesson 12.3 Classroom Sharing Activity

Instructions: In this reflection have student volunteers stand up and tell their own personal story about an accident or vehicle breakdown that they were involved in. Ask the student how it happened and what they did to manage the situation. Quiz them on what they could or should have done differently to secure and protect the scene.

What happened?

How did you manage the situation?

What could you have done differently?

Lesson 12.3 Power Point Slides

Instructions: Students will view a power point presentation that covers roadside vehicle breakdowns, and how to effectively manage and secure the breakdown scene. The power point will also include simple roadside maintenance that can be performed. Accident scene procedures will include information on NY State law regarding fatality, personal injury and property damage accidents as well as information about accident.

Witness Responsibilities

If You Witness a Car Crash:

- Not Legally Responsible to Stop
 - It's the Right Thing to Do!!
1. Call 911!
 2. See if anyone is hurt
 3. Aid the injured (if qualified)
 4. Avoid Moving the Seriously Injured!
Unless..... Necessary to remove from a dangerous situation!
 5. Cooperate with Police and Authorities Upon Arrival

Breakdown Awareness

- Pull to a safe spot out of traffic (right shoulder)
- Warn other drivers – fluorescent triangles, cones, flares (properly placed)
- Protect yourself- stay in vehicle, Unwanted helpers
- Notify and Decide- Police, Tow Truck, Fix it yourself

Common Breakdowns

- Tire Related
- Out of Gas
- Engine Over heating
- Loss of Battery Power
- Vehicle Lock out

New York Requirements

When to Report:

- **Property Damage** over \$1000.00*

Leaving the scene is a Traffic Violation

- **Injury**- Must Stop! Leaving the Scene is a Criminal Violation
- **Fatality**- Must Stop! Criminal Violation
- **MV-104 Accident Report**- Must be Filed in 10 Days!
- Police Report/Insurance

*Can Change at any time

Accident Scene

If You are Involved in a Crash:

- 1) **Stay Calm**- Avoid talking to other drivers and never admit your guilt! Aid the injured if qualified!
- 2) **Stop**- As close to the accident scene as possible. (remember the original locations of vehicles for police report).
- 3) **Warn**- Other drivers with cones, flares or fluorescent triangles.
- 4) **Notify**- Police, Medical Help, 911!

Additional Steps:

- Get the names of witnesses
- Exchange Information- Insurance, Motorist ID's etc.
- Take photos
- Get License plate of other vehicles
- Take notes on collision for use on accident report

Lesson 12.3 Law Enforcement Speaker

Instructions: Instructor will introduce a guest speaker from law enforcement to discuss various topics concerning vehicle breakdowns, accident procedures and NYS law regarding fatality, personal injury and property damage accidents. A question and answer session will be provided at the end of the presentation.

Notes:

Lesson 12.3 Supporting BTW Activity

Instructions: During their normal behind the wheel session students will learn all the critical steps on how to safely perform a tire change. The students will physically perform change a tire on the driver education vehicle. If time permits or during another BTW session students will also learn all the critical steps involved with jump starting a car. This is also a good time to view the vehicle emergency kit inside the driver education vehicle and discuss what is included in a roadside emergency kit. This is also a great time to discuss the importance of safely performing simple vehicle maintenance at a breakdown scene. Have students bring their “checklists” provided in classroom for “Changing a Flat Tire” and “Jump Starting a Car.”

Jump Starting a Car



1. Position the car with the good battery close enough to accommodate the length of your jumper cables.
2. Make sure both engines and any car accessories are off! Make sure the cars' are in "park" and emergency brake is applied.
3. Locate the positive + and negative - terminals for both batteries.
4. Take the Red positive + cable and attach it to the terminal of the good battery. Attach the other end to the terminal of the dead battery.
5. Next take the Black negative - cable and attach the clamp to the negative - terminal of the good battery. Clamp the other end to a "grounding point" on the dead car's battery. A ground can be a part of the frame of the car or perhaps the engine block. The ground prevents sparking from occurring which could ultimately lead to an explosion.
6. Start the car with the good battery. Next start the car with the dead battery.
7. Once the car has started remove the cables in the opposite order. Negative's - first (black), then positive's + (red) second.

*Procedure provided by: "Responsible Driving" page 265 © 1997 AAA

Changing a Flat Tire



Getting a flat tire can be a scary proposition! Statistics show that nearly every driver will experience a flat tire at least once during their lifetime. It is important to know what to do should this happen to you. Being proactive and prepared is the key. Take time to learn where your spare tire is located. Most cars are supplied with temporary spares designed for speeds under fifty miles per hour. This temporary tire will suffice until you get your car to the shop. Also make sure to locate the jack and tire iron. Both are usually located close to the spare tire.

Once you realize that you have a flat tire. Hold on to your steering wheel firmly, slow down and get your car completely off the road. It is best to pull to a spot that is not only well out of traffic, but also is on a flat surface. Placing cones or reflective triangles behind your car will warn other drivers if you must pull off on a main road. Having a safety kit in the trunk of your car is a must for all vehicles, so that you are prepared for virtually every emergency. Once your car is completely off the roadway on a flat surface you are ready to begin. Follow the steps on the next page in proper sequence. Practicing these steps before an emergency does occur will give you plenty of confidence when that first tire happens to go flat!

Steps for Changing a Flat Tire

- ◆ After Car is parked in a level spot make sure it is placed in “Park.”
- ◆ Set the Parking Brake (Emergency Brake).
- ◆ Block the wheel diagonally opposite the flat with a brick or piece of wood.
- ◆ Take out the spare tire, jack and tire iron.
- ◆ Assemble the jack and place it in a position where it can “grab” the frame of the car.
- ◆ Remove the hubcap and place it near the flat (you can use the hubcap to collect your lug nuts).
- ◆ Loosen all of the lug nuts just a bit while the flat tire is still on the ground.
- ◆ Jack the car up until the tire is completely off the ground.
- ◆ Remove all of the lug nuts and place them in the hub cap.
- ◆ Remove the flat tire.
- ◆ Mount the spare so that holes line up with “lugs.”
- ◆ Hand tighten the lug nuts.
- ◆ Next, tighten the lug nuts using your tire iron. Make sure to tighten them diagonally in a star pattern.
- ◆ Lower the car and remove the jack.
- ◆ Tighten the lug nuts once again in a star pattern.
- ◆ Replace the hub cap.
- ◆ Store the flat as well as the jack and flat tire in trunk.
- ◆ Remove the block and release the emergency brake

*Procedure provided by “Responsible Driving” page 262 © 1997 AAA

Key Words- Chapter 12

1. ABS
2. ESP
3. Counter Steer
4. Traction
5. Skid
6. MV-104
7. Suspension Control
8. Hydro plane
9. Over-Driving Headlights
10. Glare
11. Fog
12. Running off Pavement
13. Skid recovery
14. Tire Pressure
15. Jump Start
16. Tire Blowout
17. Loss of Steering
18. Driver Error
19. Vehicle Failure
20. Overheating
21. Evasive action