Chapter 8 Lesson Plans and Activity Directions

Title: Creating Open Space

Concepts:
8.1 Timing side zones
8.2 Poor Driving Conditions
8.3 Driving Impaired
8.4 Construction Zones

Prerequisite: Participation in previous sessions, successful completion of previous assignments, and a minimum of 80% on previous chapter exit exams.

Time: 3 hours

Required Equipment, Lesson Resources and Support Materials:
- NDRPC 2014 DVD Interface, computer, projector, screen, and speakers
- Chapter 8 Lesson Plans and Activity Directions, and Overview Notes
- NDRPC 2014 Playbooks
- 8.2 WS Limited Visibility Key (print this out for use during a video activity)
- Ticket in the Door to 8.3 and Key
- 8.3 Pre-test Key
- Chapter 8 Exit Exam and Key

Note: See Chapter 8 Lesson Plan and Activity Directions for optional activity props you may need.

Optional Materials:
- Ten Habits Keep the Monster Caged! Using the Dynamics of Zone Control
- Partnership for EXPERT Driving 7th ed. IN-CAR Guides

Teacher Activities	Participant Activities/Objectives
8.1 Timing Side Zones **Time: 30 minutes** **Objective** • The learner will be able to explain the procedure for managing space to the side of the vehicle by effectively timing the arrival into situations to gain the best separation.	
Fixed and Moving Side Zones - Judge and Adjust - Create Open Space Begin by asking learners to give examples of fixed and moving side zones. Then ask: • What makes timing side zones more difficult than timing lights? • What are the three things you must do to successfully time a side zone? • What are your best LP and speed options when both left and right side zones are closed? • Explain ways you can create open space to have the most separation from the worst problem when changing lanes or entering intersections. Answers to each question are on the page.	Provide examples of fixed and moving side zones. Answer questions when asked.

Mental Rehearsal Activity: Timing Side Zones Launch video and give learners opportunity to practice evaluating timing techniques and in some cases make better choices. They will practice: 1. judging the speed of moving zone conditions 2. adjusting speed to arrive at each closure at separate times 3. adjusting lane position to create space between the camera vehicle and each problem it encounters	Determine if side zone(s) are well timed in each given situation. If not, decide what the proper actions should be.
8.2 Poor Driving Conditions **Time: 30 minutes** **Objectives** • The learner will be able to explain precautionary measures to use when driving in conditions that are less than optimal. • The learner will be able to identify tools and strategies needed to prepare a vehicle to drive in poor weather driving conditions.	
Prepare Your Vehicle Ask learners to explain how to prepare a vehicle for driving in poor conditions. **Video Montage:** How will you get ready for driving in poor conditions? Launch video and lead learners.	Develop strategies that help prepare for driving in poor conditions.
Liminted Visibility **Brainstorm Video Activity:** Use WS 8.2 Limited Visibility Conditions Direct learners to WS 8.2. Launch video to help learners brainstorm ways to compensate when visibility and traction conditions are not optimal.	Brainstorm methods to use to compensate when visibility and traction is limited.
Reduced Traction **Get a Grip:** Testing traction Launch PPT. Lead learners in a class dicussion about traction, what limits traction, hydroplaning, and how to test traction before and while driving.	Participate in class discussion. Explain how to check tire condition and tread depth. Explain what causes hydroplaning. Explain how a driver should test traction before and while driving.
8.3 Driving Impaired **Time: 60 minutes** **Objective** • The learners will expand their knowledge of the effects and influence of chemical substances on the ability to operate a vehicle, and the laws and consequences associated with illegal possession of substances while operating a vehicle.	
Ticket to Concept 8.3 Lead class through a self or peer evaluation of responses to questions using Ticket to Concept 8.3 Key. Allow students to keep for future reference.	Evaluate responses to E-Ticket 8.3. Save for future use.
Alcohol and Other Drugs **Pre-test:** What you know about alcohol and other drugs? Direct learners to the Pre-Test located at the end of this chapter. Give them time to complete, working in small groups. Using your answer key, allow them to review their answers.	Work in teams to answer Pre-Test 8.3 questions and evaluate the results.
Making the Right Decision is Hard Sometimes **Music Video:** Simple Plan Launch video. Follow up with some thought-provoking questions: 1. Do you know anyone who's had a simular experience? 2. What feelings do you think the artist is describing when he sings, "How could this happen to me?" 3. How many lives were upset by his choices? 4. Could he have made a different choice?	Watch and listen to video. Participate in class discussion.

Effects of Alcohol and Marijuana on Drivers Launch PPT presentation The Truth About Alcohol. Guide learners through facts and lead discussion.	Participate in class discussion.
Choose Your Future There are two Choose Your Own Future (CYOF) activities linked on this page to choose from. Activate the Alcohol CYOF from the play button located on "Friends don't…" graphic. Activiate the Marijuana CYOF from the play button located on "It's your decision…" graphic. Both help learners make a connection between choices and consequences. Time may make it necessary to choose one or the other activity. Let learners choose and show them the results. Discuss their satisfaction with their choices and move them toward making acceptable choices that minimize risk.	Participate in the activity. Provide input for the various choices and consequences of those choices. (It is important that the learner makes the connection that any choice he or she makes has consequences—both positive and negative.)
8.4 Construction Zones & Chapter 8 Exit Exam **Time: 60 Minutes** **Objectives** • The learner will be able to describe various problems that could develop when driving through work zones and explain space management actions needed to interact in a safe, cooperative, courteous, and patient manner. • The learner will complete Chapter 8 Exit Exam with a minimum score of 80%.	
Exactly What Is a Work Zone? **Video:** Interacting in Work Zones Launch video and discuss the importance of cooperation and respect when interacting in construction zones.	Discuss the importance of interacting courteously.
The Four Areas of a Work Zone **Video Practice:** Nighttime Work Zones Launch video. Demonstrates the four areas of a work zone. Point out difficulties of driving through an active work zone at night.	Practice driving through an active work zone in a simulated night time drive.
Space Management Strategies Help learners apply space management strategies when approaching and driving through a work zone.	Review space management strategies used in work zones.
Chapter 8 Exit Exam Administer exam, collect and correct.	Learners take chapter 8 exit exam.
Assign and Wrap Up • Read Playbook Chapter 9 • Ticket to Concept 9.3	
Estimated Time: 3 hours	

Assessments

Learner will complete Ticket to Concept 8.3 and demonstrate accountability for completing chapter reading assignments. Learner will answer informal questions, and participate in class discussions, demonstrations, and activities.

Learner will complete Chapter 8 Exit Exam with a minimum score of 80%.

Assignments

- Read Playbook Chapter 9
- Ticket to Concept 9.3

8.2 Poor Driving Conditions - Activity Directions

Optional Activity: Gripometer

Props Needed:

- Each learner will need a single piece of notebook paper (a textbook or notebook will work too)

Objective: Students will be able to feel tire/road grip

Conducting the Activity

Ask students to hold the paper/book between the palms of both hands. Tell them that one hand represents the tires of the car and the other hand represents the road surface.

Have them press the hands together as forcefully as possible to prevent you from pulling the book out of their hands. Walk around the room and attempt to pull the book out of the hands of seven or eight students. Tell them that with such a powerful grip of the tires to the road, the car will be very easy to keep in control. Now, ask them to hold the paper/book as lightly as possible. Walk around the room and demonstrate how you are able to the slide the book up and down between the students' hands. Ask: "what will happen with this grip if one of the hands is pulled ever so slightly further away from the book?" (All road grips will be lost and the car (book) will go out of control.) Emphasize that when the car's tires are barely gripping the road surface, drivers are most likely to experience loss of traction.

Variation

Objective: Allow students to experience how traction is needed for car control

Conducting the Activities

Have students formed into pairs. If there are an odd number of students, team up with the remaining student.

Have each pair of students stand about three feet apart facing each other. Have them place their palms together and press firmly. One student's palm represents the car's tires, the other the roadway. The "tires" student moves his/her hands up and down and to the sides. The "roadway" student's hands should stay in contact and capable of following the "tire's" actions. Explain that friction is keeping the grip of the two hands together. With friction holding the hands together, the tires stay on the roadway. Then have the students loosen the pressure against the hands. Continue to move the hands to see how it is not possible for the "tires" to respond to the "roadway" changes unless there is adequate friction.

Another method is to have one student make a fist and press the fist, rather than the full palm, into the partners palm to see the effects of reduced tire contact to the road.

An additional variation of this activity is to have two students place a piece of plastic between their hands. Then call attention to how the hands begin to slip and cannot follow one another.

Optional Activity: Traction Grip Comparison

Props Needed:

- Commercial or homemade traction board with three roadway surfaces
- Model car (with a flat hard platform for good adhesion)
- Two thin elastic bands
- Two grades of sand paper that will adhere to model car
- Granular material such as salt, sugar, or fine sand

Set up

Place the traction board in the up position to have the traction envelope visible. Take two thin elastic bands and loop them together. Remove the stiffness of the elastic by pulling both ends several times to stretch them out before using them. Place the model car on the platform provided. Place the platform and car on the sandpaper (tires) and attach the sandpaper with the Velcro grips to the car. Have students gather around the desk to observe the activities with the traction envelope.

Conducting the Activity

Show the car to the students. Explain that the sandpaper on the car represents very good tires. It has the best tire grip available. Have a few students rub their hands across the surface of the sandpaper to feel the roughness. Call the students' attention to the three different road surfaces that are on the traction board. One represents the best road surface available. It could have a .80 coefficient of friction. The middle road surface represents a concrete highway that has been worn smooth by traffic use over a number of years. It could have a .65 coefficient of friction. The third road surface represents black ice. It could have a .10 coefficient of friction. Have a few students rub their hands across the three road surfaces to feel the difference.

Good Tires, Good Roadway

Place the car onto the roughest sandpaper and press down firmly on the car to set the surface of tires to the road. Place one end of the elastic bands onto the outside mirror on the driver's side. Hold the other end and slowly begin to stretch it until the car is pulled off the road surface. Make note of the number on the tire grip scale that your end of the elastic was stretched to. That shows how much traction was holding the tires to the road surface.

State to the students that even with the best surface and the best tires, there is a limitation of traction available to hold the car on the road. When that traction envelope is exceeded, the car goes out of control.

Good Tires, Worn Roadway

Place the car onto the middle road surface. Place one end of the elastic bands onto the outside mirror on the driver's side. Hold the other end and slowly begin to stretch it until the car is pulled off the road surface. Make note of the number on the tire grip scale that your end of the elastic was stretched to. Compare it to the best road surface.

Make the point that a driver may not know how much traction the road surface has. A reduction of speed is the only way to keep the car within the traction envelope.

Good Tires, Polished Roadway

Place the car with sandpaper attached on the smoothest surface; this represents a polished roadway. Place one end of the elastic bands onto the outside mirror on the driver's side. Hold the other end and slowly begin to stretch it until the car is pulled off the road surface. Make note of the number on the tire grip scale that your end of the elastic was stretched to. Compare it to the other road surfaces. Note how the car goes out of control at a very slow speed.

Good Tires, Sand on Roadway

Finally sprinkle some sugar onto the best road surface. Explain that it represents sand on the road and separates the tires from the road surface. Place the car on the roadway and hold one end of it while pulling the elastic with the other hand. Make note of how the traction of the road surface changed.

Make these Points

The roadway surface is only one possible risk factor that can affect car control. The condition of the tires would be another. Are they worn? Are they inflated properly? These factors can also play a role in the amount of adhesion or grip, and therefore, the level of car control. Point out that sand, gravel, wet leaves, and other loose materials on the roadway can reduce traction just as snow and ice do. Many drivers encounter these reduced traction situations more frequently than they drive on ice or snow.