

International Bicycle Fund

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A non-governmental, nonprofit organization promoting bicycle transport, economic development and international understanding worldwide.

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Lesson #2

DEFENSIVE DRIVING

Objective: To teach awareness and identification of hazards in the cycling environment.

Specific Objective:

- 1) Students will be able to identify hazards on the roadway.
- 2) Students will be able to identify the hazards from drivers limited perceptions.
- 3) Students will be able to identify the hazard of motorist blind spots.
- 4) Students will know proper lane for avoiding certain types of hazards.
- 5) Students will be able to identify the hazard from right turning vehicles.
- 6) Students will be able to identify the hazard from left turning vehicles.
- 7) Students will be able to identify the hazard of non-conforming traffic.
- 8) Students will know about reaction time and the importance of planning ahead in traffic.
- 9) Students will know how to safely avoid obstacles by dodging or stopping.
- 10) Students will know the importance and skills for scanning for hazards.

Introduction: By being explicitly aware of the hazards in the cycling environment and learning to drive defensively in the area, bicyclists can avoid many accident situations.

Activity:

- 1) Discuss the kinds of hazards found in there home work.
- 2) Show slide show illustrating:
 - roadway hazards
 - motorist's limited perceptual ability as a hazard
 - multiple threat situations
 - road width and vehicle position
 - proper position of a bicycle in traffic
 - other traffic situations: bike paths, sidewalks
 - intersections and driveways
 - how traffic is regulated
 - a. What is the situation?
 - b. What are the hazards?
 - c. What actions would you take to avoid trouble?
- 3) Reaction Time Game I: A holds a ruler dangling with his thumb and first finger. B spreads his thumb and first finger at the bottom of the ruler. When A lets go, B pinches the ruler and sees how many inches of drop there was before he could react. Repeat the game and see if reactions can be improved.
- 4) Reaction Time Game II: This drill gives students an opportunity to test their reaction times against that of others, as well as sharpen their reflexes. Divide the students into pairs, and have each student face his partner. A holds both arms comfortably out with palms up, while B holds his arms out with his palms down, directly above A's. A then attempts to slap the tops of B's hand, while B tries to move his hands quickly enough to avoid the slap.

- 5) Reaction Time Game III: Divide the student into pairs, and have each student face his partner. A holds both arms comfortable out with his hands flat and his palms together, while B stands an arms length away with his arms to his side. B then attempts to slap A's hands, while A tries to move his hands quickly enough to avoid the slap.
- 6) Reaction Time Game IV: Divide the student into pairs, and have each student face his partner. A holds both arms comfortable out with his palms about 4 inches apart. B holds one or both hands between A's palms, and must remove his hand(s) before A can clap closed on them.
- 7) Demonstrate the two second rule. How to figure it. And why it is important: Following a reaction time game the need for keep a safe distance should be understandable. To demonstrate, have to two students walk briskly around the room or in a thirty feet circle. Initially the second student should follow the lead student very close. When the first student stops abruptly the second student should try to avoid running into his back. Now discuss how to figure a two-second spacing. Have the students walk briskly again and establish a two second spacing before the first student stops. Was the second student able to avoid the hazard?
- 8) Stationary Scanning Drill: This drill will give the student the rudimentary skills necessary for riding in a straight line while scanning. Divide the class into pairs. Partner A of each team will straddle the front wheel on B's bike and hold the handlebars steady. Now, B's sits on his bicycle just as though he were riding it, and practices looking back over his left shoulder. Since the front wheel is held firmly in place, the rider must teach his body the proper movements for looking back. Many young bicyclists run into trouble when they try to scan without practice beforehand and will find this exercise virtually impossible if the bicycle is too oversize for them. The twisting motion of scanning pulls the front wheel left and the rider ends up making a wide swerve out into traffic, into the very hazard he's trying to avoid. This exercise will help to correct the problem. The key is to isolate the head movement from the arms and shoulders.

As the students look back have them work at actually seeing what's there by describing to their partner what they see.

9. Scanning While Riding A Bicycle Drill: The objective is to continue riding straight while turning your head to scan. Make up a set of flash cards for each team. These cards should be about eight inches by ten inches, with three or four cards per set. The cards can be colors, numbers or symbols such as squares, triangles, circles or just about anything you want. Alternatively fingers can be used.

In a large area send the class out riding. Each A will run behind his partner--or any other B--and call that persons name. When hearing his name, the bicyclist will turn, scan and call out what's on the card of the runner who called his name. Emphasize that riders must make accurate identification without losing control of their bikes, or altering their path. Don't try to organize this part of the drill, since letting them move at random increases the need for scanning, thus adding to the value of this activity.

10. Scanning in a Narrow Lane: As a skills test for the last drill or as a separate activity set up a 100 foot long, two foot wide lane. Have students ride down the lane one at a time and have them scan over their shoulder without swerving outside the lane. Included identifying a flash card in the test. Time permitting, add hand signals to the "look-back." The lane is similar to the narrow operating space available on most streets.
11. Demonstrate and practice rock dodge. Scatter milk cartons, small kitchen sponges, or similar sized objects ia a practice area and let the students practice dodging techniques.
12. Demonstrate and practice stopping at object. Scatter milk cartons, small kitchen sponges, or similar sized objects ia a practice area and let the students practice stopping techniques. Have the students stop as close to the objects as possible. Critique form. Do not allow students to practice at high speed and discourage skidding.
13. Review traffic ordinances to demonstrate how they create predictable behavior for shared road use. But also develop the to plan ahead because a bicyclists can react instantaneously when something starts to go wrong.
14. Homework: Draw a picture illustrating driveway or intersection hazards in their neighborhood.