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## Bicycle Safety Skills

### Part One - Lesson Preparation

#### I. Objectives

- A. Student can identify a bicycle that is unsafe to ride.
- B. Student can judge whether a helmet is being worn correctly, and is willing to wear a helmet.
- C. Student improves her/his ability to control the bicycle while executing skills necessary for in-traffic riding, such as riding in a straight line, looking over the shoulder for traffic without swerving, and using hand signals.
- D. Student learns to identify potential dangers in an intersection or street scenario, to make a plan to avoid them, and to execute the plan.
- E. Student becomes more familiar with the math concepts of perpendicular and parallel.



#### II. Materials Needed

##### Demonstration Parts

Helmet made for an egg  
Bike to use for Safety Check  
Bikes to be Ridden

##### Tools

TV and VCR  
Traveling Tool Kit  
Frame Pump

##### Other Materials

Chalk or Masking Tape  
2 Eggs, in Plastic Bags  
First Aid Kit

#### III. Setting

- A. Outdoor, Pre-Traffic Practice Area — playground, empty parking lot, or very quiet back street intersection. With chalk or masking tape set up two parallel lines on the pavement, one foot apart and at least forty feet long. At the end, make a mock intersection allowing room for a left turn off the parallel lines. Make sure there is enough room near the head of the parallel lines for the cyclists to assemble and wait their turns. See the BikeCentennial Bike Safety Rodeo manual for more setup ideas. You may have to sweep up glass, plan ahead!
- B. Outdoor, Practice Ride — choose routes to and from class meeting site that do not involve dangerous roads or intersections.

#### IV. Evaluation

- A. Teacher Observation During Work Session Observe the students you are working with for general riding skills (e.g. body position on start up, steadiness, stopping ability).
- B. Oral Review at end of work session.
  - 1) **Language:** How many of the parts and traffic terms can students identify? Passively? Actively?
  - 2) **Process:** How many of the steps of the safety check can students name? Can they get the steps in the correct order? How many of the steps of making a left turn can students name?
- C. Written Evaluation How well can student narrate what she did that day on her time sheet?

**NOTE:** While for simplicity sake we describe the Safety Skills lesson here as one lesson, it works best to divide these activities up and integrate them into mechanics lessons over the course of the entire EAB course. Riding provides a good break during mechanics, and can be used to reduce the number of students in your tool area at once.



## Part Two - Activity Instructions

**I. Tool Check!** Students & instructors enter the tool area and confirm as a group that all the tools are there.

### **II. Process**

**A. Goal** — Group discussion: Have you ever had a bike crash or known anyone who has? What caused the crash? What were the consequences? Could it have been prevented? Allow time for people to tell possibly painful stories and describe their feelings - otherwise the students tend to numb out!

### **B. Steps to Safe Riding** —

**1. Watch a Safety Video** — it works best to view these a little at a time, 15-25 minutes maximum. The Videos available at Bikes Not Bombs are:

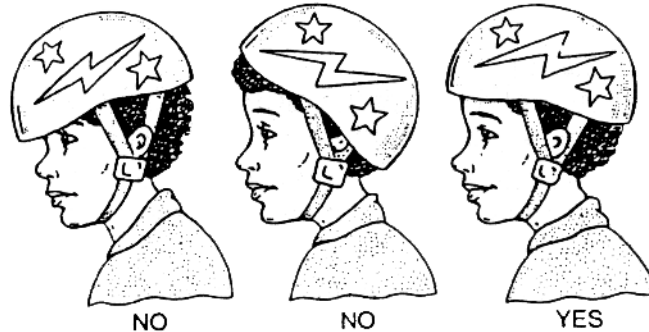
- a) **Bicycle Safety First** A video of a slide show made for an adult audience, showing white adult riders in Oregon. Very good info. on the importance of lane positioning and tactics for riding in traffic. Works well with some young people.
- b) **Be Safe on Your Bike** A California video, showing a mixed race group of boys riding in the suburbs. Good info., has an unnecessary boy meets girl theme.
- c) **Basics of Bicycling, Parts I, II, and III** shows mostly younger children on BMXs, mostly white group, riding in what look like Mid-Western or New England suburbs. Has a good piece on making a plan to deal with potential obstacles.
- d) Soon to be available: the Bikes Not Bombs Girls In Action Bike Safety Video!

**2. Evaluate Condition of Your Bike** — do the Safety Check!

- a) **Drop the Bike** from a few inches off the ground, letting it bounce a bit on its wheels. Listen! Anything loose? Pay special attention to the Headset.
- b) **Check the Wheels** — Is there side to side play. If so, is it in the hub adjustment or is the wheel loose in the dropout? **Do both wheels spin freely?**
- c) **Is there enough air in the tires?** You shouldn't be able to dent the tire w/your thumb.
- d) **Do the brakes stop the bike?** Squeeze both brake levers and try to push the bike forward. Try to push it backwards. The wheels shouldn't turn.
- e) **Can you rock the Crank Arm from side to side?** If you could, what would that mean?
- f) **Your Body and Clothes!** Any loose shoe laces, baggy pants that might get caught in the chain or wrapped around the pedals? Or long hair that might get in your eyes?

**3. Put Your Helmet on Correctly**

- a) Do the Egg Drop Demo. Draw a little face on an egg, name it, and see what happens to it when you drop it to the pavement (covered with a sheet of paper!) from one foot high. Then put the second egg (also named!) in its “helmet” (and inside a plastic bag). Drop it from one foot. Did it break? Drop it from two feet. Did it break? Keep dropping it from one foot higher each time until it breaks. Describe the straps securing the egg helmet as having the same role as your helmet chin strap & buckle. Point out both that the helmet protected it a lot, and that a hard enough blow will break your head even with a helmet.
- b) Put in Pads that make your helmet fit snugly on your head. No side to side or front to back play, but not squeezing your head.
- c) Adjust Straps so that you can’t push the helmet up to expose your forehead, or forward to expose the back of your head.

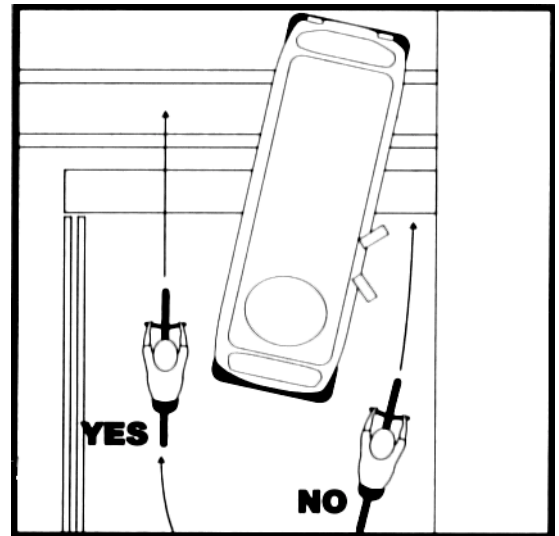
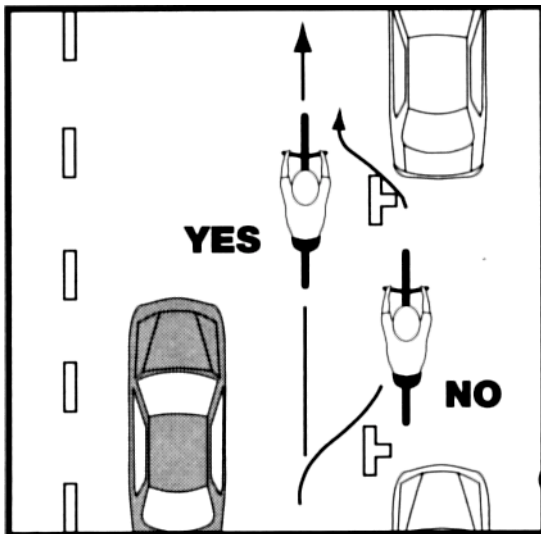
**Bicycle Helmet Fit****4. Practice Basic Skills Away From Traffic**

- a) Riding in a Straight Line — Can you stay between two parallel stripes one foot apart?
- b) Riding in a Straight Line while Looking Over your Shoulder — Can you look and then say how many fingers the instructor behind was holding up, without swerving outside the parallel lines?
- c) Riding in a Straight Line while Using hand Signals Can you make a “right turn” or “left turn” or “stopping” signal, without swerving outside the parallel lines?
- b) Riding in a Straight Line while Looking over your Shoulder and Signaling! Can you look and then say how many fingers the instructor behind was holding up, and make a hand signal, all without swerving outside the parallel lines?
- d) Making a Left Turn Combine all of the above and turn left at the end of it, into a perpendicular street that has been drawn on the pavement. For the more sophisticated, work on positioning in the lane once they master a simple left turn.



- 5. Practice Riding in a Group, Away from Traffic** Try a first ride on a bike path. Take a first aid kit, a tool kit, a pump and some water. Stop occasionally and ask how your riders are doing. Ask what has been going well. Ask if anyone noticed anything that needed improvement.
- a) Everyone Thinks for Themselves Don't go through an intersection just because the person in front of you did!
  - b) Establish an Order of Riders On the first group ride it may be necessary to keep everyone in the original order and not allow passing, depending on how much self-control and attention the riders have. Eventually allow passing, only if you look behind you, and warn the rider you're about to pass.
  - c) Don't let the Person Behind You get Out of Sight. Watch out for the group and don't leave anyone behind.
  - d) Pull your Bike Over to the Side of the Road or Path if you have to Stop.
  - e) If you are riding on a bike path parallel to a road, when crossing a side street, Be Careful to Look Over Your Shoulder for Cars coming Up behind you, About to Turn Right or Left across the bike path on the side road!
- 6. Go for a Ride In Traffic!** Choose both your group and the route carefully. You probably want to start with a group of only three or four students and two instructors.

- a) Ride up to a busy intersection, stop and Strategize How to get Across. Where are all of the places cars could come from? What would happen to your plan if suddenly a cyclist shot out of somewhere, going the



- wrong way or running a red light?
- b) Try it Out! Send one person at a time, don't send anyone who's not ready. Remember that walking a bike across an intersection in the cross walk is always a fine option.
- c) Watch out for Car Doors — stay far enough out in traffic to avoid an opening car door. How far is that? Go out and measure the width of a few doors.



**III. Language Skills**

Over the course of the safety lessons we should introduce all of these terms. At the end of the session it is often helpful to get each student to touch each of these

**Main Part**

Helmet  
Reflector

**Minor Parts**

Helmet Liner  
Helmet Shell  
Helmet Buckles

**Traffic Terms**

Intersection  
Right of Way  
Yield  
Lane  
Stop Line  
Pedestrian

parts on his/her bike & say the name.

**Note:** Mention here other systems you end up dealing with in the course of this lesson (such as wheels or brakes), and include the main words to remember: rim, hub, axle, axle nut, quick release skewer, brake lever, brake caliper, brake shoes, brake cable.

**IV. System Understanding:** Is traffic a system? How do the different parts of traffic function as a whole? What is a transportation system?

**V. Review**

**VI. Clean Up, Put Away Bikes and Helmets**

**VII. Tool Check!** Leave tool area as a group after confirming that all tools are present.

