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Kids on Wheels

Training Manual

A guide for implementing
on-bike safety trainings





Why teach bicycling safety?



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Kids on Wheels

The **Active Transportation Alliance** is pleased to present this manual for **Kids on Wheels (KOW)** bicycle safety trainings for children.

According to Safe Kids Worldwide, an international injury prevention organization, bicycles are associated with more childhood injuries than any other consumer product except the automobile. More than 70% of all kids age 5 to 14 ride bikes, and this same age range has the highest rate of bicycling crashes of any age group. However we also know that children who receive comprehensive on-bike safety trainings are safer. One study reported an 88% decrease in the number of bicycle crashes with motor vehicles among children 5 to 14 (Rivara & Metrik, 1998) within one year of completing a bicycle safety course. And another found an 80% decrease in bicycle-related mortality and a 68% decrease in bicycle-related morbidity among children who had gone through a bicycle safety educational program (Rivara & Metrik, 1998). This tells us that a majority of crashes can be avoided through education.

Kids on Wheels is also a great way for youth to stay active and healthy. Many schools are cutting physical education and limiting after-school programs while an increasing number of children in the Chicago region face stigmatizing and health-threatening problems of obesity and weight gain. Research supports that children who bike and walk to school are more attentive, test better, have better overall health outcomes and are less likely to watch TV and smoke. However, many parents and educators have



A 3-year-long study involving 1 million school children in California found a 25 percent reduction in bicycle-related fatalities and a 34 percent reduction in bicycle-related injuries among kids who participated in an on-bike training program.

safety concerns about allowing or encouraging children to bike, either to and from school or on their own time.

Active Trans has had demonstrated success with on-bike education and safety training. Safe bicycling is best taught through experiential education. Students must be afforded the opportunity to actually practice safe riding techniques on a bicycle, though oftentimes, we have found that schools are unable to commit to sustained programming as a result of the logistical challenges inherent to putting students on bikes. These challenges include ensuring that every student has access to a working bike, transporting the bikes to and from the school, and security options available at the school.

By reaching children early with safe bicycling messages, we can provide them with skills and knowledge that will serve them for a lifetime. Not only do we teach kids to ride more safely and predictably, we also begin to familiarize them with basic rules of the road and an understanding of motorist behavior.

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INTRODUCTION

Welcome to the Active Transportation Alliance Kids on Wheels Program

The **Kids on Wheels (KOW)** program is a curriculum to teach second- to fourth-grade students to travel safely on a bicycle. Students learn the basic traffic rules and regulations, the potential hazards to travelling, and handling skills needed to cycle effectively, appropriately and safely through their community. KOW promotes safe youth cycling and offers on-the-bicycle training; the KOW program also uses hands-on, in-class lessons to teach safety concepts and laws.

WHAT SKILLS WILL CHILDREN LEARN?

The KOW program emphasizes educating students to cycle by the traffic laws in order to make them safe and predictable cyclists. It also promotes cycling as a way to increase independence and physical activity for an increasingly overweight youth population.

During the Kids on Wheels program, students learn:

- Proper helmet fit and use
- Bicycle safety inspection
- Common road and traffic hazards
- Start position
- Scanning
- Signaling
- Braking/stopping
- Intersections
- Group riding dynamics

Goals for the program:

- Increase safety of youth bicyclists
- Increase the number and frequency of children riding bicycles
- Improve the lives of children by improving health, learning capacity, independence and community conditions for bicycling

CURRICULUM LENGTH AND STRATEGY

The curriculum provides three days of programming that will stimulate students through interesting demonstrations and hands-on exercises, such as bicycle helmet fit and bicycle maintenance checks. Also included are three on-the-bicycle lessons that are fun for students and progressively build riding skills so students are able to ride safely on the street. Educators may choose to implement one or all of the lessons, but they should be taught in the order laid out within the curriculum.

The lesson plans are divided into three sections. Each section includes a discussion and demonstration followed by an on-bike activity:

Lesson 1: On the Playground

Lesson 2: Around the Block

Lesson 3: On the Street

A program overview of each lesson and its activities are provided starting on page XX. Each lesson plan provides an overview of the lesson, the health and physical education goals achieved by the lesson, description of the activities, descriptions of how to administer the activities, required materials, and copies of handouts for each activity. Starting on page XX is information to assist teachers, such as a complete list of required program materials, ways to find additional resources, guides, curriculum, samples of letters to parents, and additional readings.

STARTING AND IMPLEMENTING

The KOW program runs like a well-oiled chain once your equipment is ready, the school administration is on board and community involvement is in place. Read through the curriculum before implementation. As you consider all of the program logistics that should be in place prior to running the KOW program, you may decide to contact other community groups to provide supporting materials and volunteers. Please use the list below for ideas on where to find help with certain aspects of the program.

Active Transportation Alliance: Teacher trainings, program materials assistance, program set-up, program implementation

School Administration: Field trip or off-campus approval for community rides, insurance and liability issues, parent volunteer recruitment, storage of program bicycles, storage of students' bicycles

Parent Teacher Organizations: Parent volunteers for on-street lessons, funding

Other school support possibilities: School Police officer, safety administrator, Americorps member

Police Bureau Traffic Safety Section: Escort for on-street practice and community rides

Hospital: Helmet donations, caps to prevent transmission of lice

Community Members: Volunteers for on-street lessons and community ride days

Bike Shops: Mechanical support before and during program, equipment purchasing assistance, volunteers for community ride days

Bike Clubs: Volunteers for on-street lessons and community ride days, funding

Businesses: Volunteers for on-street lessons and community ride days, financial support

Before The Event

In advance of Kids on Wheels programming, you will need to make the following preparations:

Set the date – Work out the dates for programming

Determine the number of students – Find out how many children will be participating so you can plan how much time and how many volunteers will be needed.

Determine the location – Scout out a secure outdoor area that is paved, large enough for bike riding and close to the school. Remember that you will be drawing a training course in chalk, so be sure to check that the location can accommodate this. Note that the first lesson may be done in a basketball gym in case of inclement weather. Confirm with your building facility manager that this will be allowed.

Recruit volunteers – An absolute minimum of 3 adults will be needed to run each lesson successfully. However the more assistance you have, the more smoothly your lessons will run.

Notify parents – A memo and a waiver may need to be sent home to parents 2 weeks ahead of the event, and a follow-up reminder should be sent a few days before. A sample waiver can be found on page XX.

Confirm delivery of supplies – Supplies you will need include:

Kids on Wheels trailer (For years 1 & 2)

After the program's second year, programming will require

1. One bike per student
2. One helmet per student
3. One container of sidewalk chalk
4. 20-25 soccer cones
5. Copies of handouts (see Appendix)
6. Stickers, certificates or other rewards for completing the training
7. Disposable paper surgical caps if helmets are being used and shared
8. Optional: Whistle
9. Optional: Cardboard cutouts of stop signs, cars, etc.
10. Optional: Bike pump
11. Optional: Bicycle multi-tool for minor adjustments and repairs
12. Optional: Extra tubes for tires
13. Optional: Safety vests for students and adult volunteers

(For a complete list of required materials to complete your own "Kids on Wheels" style bike fleet, contact the Active Transportation Alliance)

Once you have completed these preliminary steps, coordinate with your volunteers and program partners prior to the first day of lessons so that they know where to be, what time to show up and what their general duties will be.



Overview of Kids on Wheels Lessons

Outlined below are several activities for your bike day.

Lesson 1: On the playground

- **Discussion:** Program and lesson overview
- Pre-test*
- **Demonstration:** Helmet Safety –the Eyes, Ears, Mouth Test
- **On-Bike Activity:** Bike Rodeo - Bicycle skills course
 1. Starting and stopping
 2. Identifying traffic signs
 3. Scanning (looking back)
 4. Effective braking
 5. Looking left, right, left at intersections
 6. Signaling and turning
 7. Yielding for pedestrians
 8. Approaching alleys and driveways
 9. Maneuvering around obstacles

Lesson 2: Around the block

- **Discussion:** Lesson overview
- **Demonstration:** Bike maintenance check (ABC Quick Check)
- **On-Bike Activity:** Entering the roadway lesson
 1. Safely entering the roadway from a driveway
 2. Riding on the right-hand side of the road
 3. Obeying traffic signals
 4. Intro to intersections and the concept of "right of way"
 5. Right turns

Lesson 3: On the street

- **Discussion:** Lesson overview
- **Demonstration:** Identifying common hazards
- **On-Bike Activity:** Intersections lesson
 1. Three types of left turns

Additional Activities (Optional)

- Scramble drill
- Snail race
- Quick stop

Each activity is detailed on a separate sheet. Accompanying handouts are also included in this packet if you would like to reproduce and send home with students after the event is completed.

Be certain to provide plenty of time ahead of the students' arrival in order to trace the bike course and prepare materials.

*It is preferable to administer the pre-test prior to the course.

LESSON 01



On the Playground

Overview: This lesson covers the importance of helmets, the importance of the brain, how the helmet protects the brain, and how to wear and adjust the helmet properly. Students will practice basic bike handling skills on a closed course.

Lesson 01: On The Playground

HELMET SAFETY

Discussion and Demo: 5-7 minutes

Materials: One CPSC (Consumer Product Safety Commission) approved bicycle helmet



DISCUSSION

Ask students what they think the most important part of the human body is. After a range of responses is offered, ask students why the brain might be the most important.

Obviously the brain is responsible for our ability to think, but it is also responsible for the function of all other body parts. Ask students to think about the other things our brains allow us to do: speak, walk, feel emotions, remember, feel hunger or pain, breathe, digest food, control our muscles, etc.

Now that students are thinking about why the brain is important, discuss what you can do to protect your brain. Ask students the most important thing they can put on their bodies to protect themselves on a bike ride. After a range of responses is given (anything from knee-pads to clothes), ask students why a helmet might be more important than anything else. What can you lose if you injure your brain? Can you fix brain injuries the way you fix a broken arm or leg? Share with the students that the brain is unlike other parts of the body in that it doesn't heal itself.

DEMONSTRATION

Helmets that are not properly fit can fail to protect your head in a crash. It's important that students understand not only why they should wear a helmet but also how to wear it correctly.

It's helpful to demonstrate helmet fit on a student. However, if you are doing a demonstration using an adult-sized helmet and it does not fit your student's head, it is better to demonstrate on yourself. You can still use a student volunteer to demonstrate what an ill-fitting helmet looks like and how you know if a helmet is too big.

1. Helmet size — If a helmet is the right size for your head, it should be fairly snug and you should not be able to wobble it from side to side. Ask a student to come up and try the helmet on. Show the pads on the inside of the helmet and tell students that they can add more pads (extra pads usually come with the helmet) if the helmet is just a little too big.

2. Front and back — When the student has the helmet on, ask her how she knew the front from the back. If she has her helmet on backwards, ask her how she might know that it was on the wrong way. Helmets are thicker in the back as they hang down to protect the spinal cord and the back of the skull.

3. Eyes, ears, and mouth test — It's important that a helmet sits on your head correctly and that the straps are adjusted to fit.



Eyes: When the student looks up (with her eyes only), she should see the helmet's front rim. If she can't, tilt the helmet forward until she can.

Ears: With the chin strap buckled, the helmet's two straps on each side should meet just under the ear to form a "Y". If they don't, move the

straps up or down through the sliding junctions.

Mouth: With the chin strap buckled, ask the student to open her mouth. She should feel the helmet pull down on the top of her head. If she doesn't, adjust the strap length until the helmet fits properly.

4. Optional: Helmet fittings — If you wish to devote extra time to helmets, you can individually fit each child's helmet so that they fit properly. Be advised that additional volunteers are required and that fitting a helmet on a child can take up to 5 minutes per child.

ON-BIKE ACTIVITY

BIKE RODEO COURSE

Activity: 40-60 minutes

Materials: Chalk, tennis ball halves or cones

Setup

You will have drawn the bike course ahead of students' arrival. The following is one suggestion for a bike course. (See diagram on page 10) Students will move in a continuous loop throughout the course.

Outline in chalk the “street” lines, the start and stop lines, the U-turns and the ‘crosswalk’. (You can also use traffic cones to outline the course.) Place the tennis balls, sponges or cones in an equally spaced manner (about 5 feet apart) on the slalom section of the course.

Pre-Course Instruction

Before beginning the course, have students stand straddling their bikes with their feet on the ground near the starting area. Practice the following skills with them while stationary:

1. Power Pedal Position — This is a good way for students to get a quick start and gain stability on their bikes. Ask students to stand astride their bikes and engage their brakes. With one foot on the ground, have them spin the other pedal back with their other foot to a “2 o’clock” position, placing their foot on top of the pedal and preparing to push down. (This may require lifting the rear wheel and rotating the pedals forward if the bike has a coaster brake.) Tell students that if they get their pedals into this position each time they stop, they will gain more power once they push off.



2. Looking Back — This skill teaches students to look back over their left shoulder to check for traffic behind them. While straddling their bikes and with both hands on the handlebars and keeping the front wheel straight, ask students to turn their head to the left and look behind them.

- Position a volunteer in the area behind students and have the volunteer raise both arms, one arm, or no arms. Then ask the students to repeat the scan back.
- Ask students how many arms the volunteer was holding up. Tell students that they will be doing this on the first part of the course and that they should use the scanning skill to check for traffic approaching from behind before crossing streets or making turns.

3. Signaling — Students should signal before making turns or stopping (see diagram below). Explain to students that by signaling, they are letting cars and pedestrians know what they are about to do, which will make them more safe. Review the



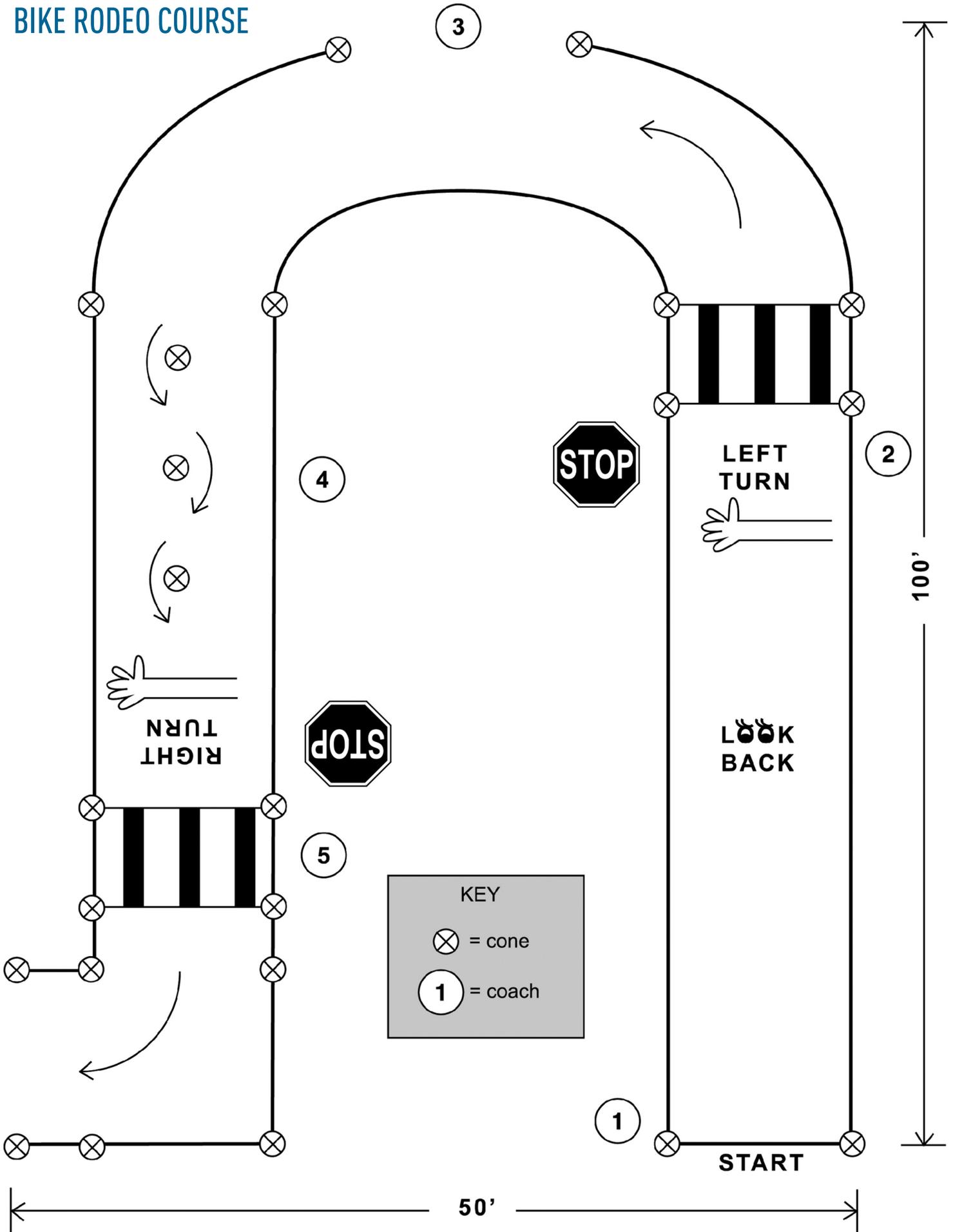
signaling positions briefly with students. Mention that though taking one hand off the handlebars can feel scary at first, once they practice it they will feel more confident. You can play a quick game of Simon Says with the signaling positions to reinforce students’ knowledge.

Preview the Course and Adult Coach / Volunteer Positions

Demonstrate the course by taking the students through the course as a group on foot, explaining each station and demonstrating each feature and activity. Refer to the illustration below for course layout and coach positions.

- **Start Line (Coach #1):** Students will begin the course one at a time. Students will demonstrate the power pedal position. When instructed to do so by the adult manning this station, they will push off to begin the course.
- **Looking Back:** Students will ride in a straight line. When they hear coach #1 at the start line shout, “Look back”, they will look back over their left shoulder at the coach, who will hold up either two, one or no arms. The student should shout out the number of arms they see held up. Students should not stop pedaling and should maintain a straight line while looking back before and proceeding to the crosswalk.
- **Crosswalk #1 (Coach #2):** Students will practice braking and stopping before the crosswalk. Students should use their brakes rather than their feet to stop. Students should use their “stop” arm signal to indicate their intention to stop. They should look left, right, and left to check for cars and pedestrians in the crosswalk and wait for the coach manning the station or other volunteers to cross through the crosswalk. (Students who are unable or unwilling to participate on bike may be used as pedestrians at the crosswalk stations.) Students will then signal their turn and follow the U-turn arrow around to the next station.
- **Driveways (Coach #3):** Students should stop before crossing in front of the driveway. Review with students the dangers of riding behind cars in driveways. Review concepts like eye contact and communicating with hand signals. The coach at this station will pantomime backing a car up, talking on the phone, tuning the radio etc. Students should not proceed but should wait short of the driveway for the “driver” to stop, notice them, and give them a “wave” hand signal indicating that the driver has seen them and is going to wait for them to proceed.
- **Slalom (Coach #4, optional):** Students will weave in and out of the tennis ball obstacles on the course to practice handling skills and hazard avoidance.
- **Crosswalk #2 (Coach #5):** Repeat of Crosswalk #1, but with a turn in the opposite direction of Crosswalk #1. Students will practice braking, stopping, and looking left, right, and left. They should signal a right turns and follow the arrow to queue in line to repeat the course if time allows.

BIKE RODEO COURSE



LESSON

02



Around the Block

Overview: Students will be presented with a brief bicycle safety maintenance check they can perform on their own bikes to ensure that they are working properly and are safe to ride. Then students will practice safely entering the roadway from a driveway, riding in a straight line along the right-hand side of the roadway, approaching intersections and making right-hand turns through intersections.

LESSON 02: AROUND THE BLOCK

HELMET SAFETY

Discussion and Demo: 5-7 minutes

Materials: One bicycle, ABC Quick Check handout

DISCUSSION

ABC Quick Check provides a simple and easily remembered way to tell if a bike is safe to ride each time you ride it. Explain to students that if their bikes aren't safe, then they will not be safe when they ride.

DEMONSTRATION

Go over each step of the **ABC Quick Check**. Ask students if they can figure out what each step stands for. You may ask a student to come up and help demonstrate each step. Refer to the ABC Quick Check handout for an illustrated explanation of each step included in the appendix.

AIR

A = Air: Air pressure in tires should be very firm. When squeezed, the tire should feel as hard as a fully inflated basketball (not soft like a beachball, very hard to squeeze).

BRAKES

B = Brakes: Hand brakes should not be able to be pulled all the way to the handlebars. Ask a student depress each brake individually and try to roll the bike forward and backward. If the front and rear brakes are working properly, the opposite wheel should pop off the ground as the bike is pushed forward and backward. Coaster brakes should engage when the pedals are rotated in reverse.

CHAIN

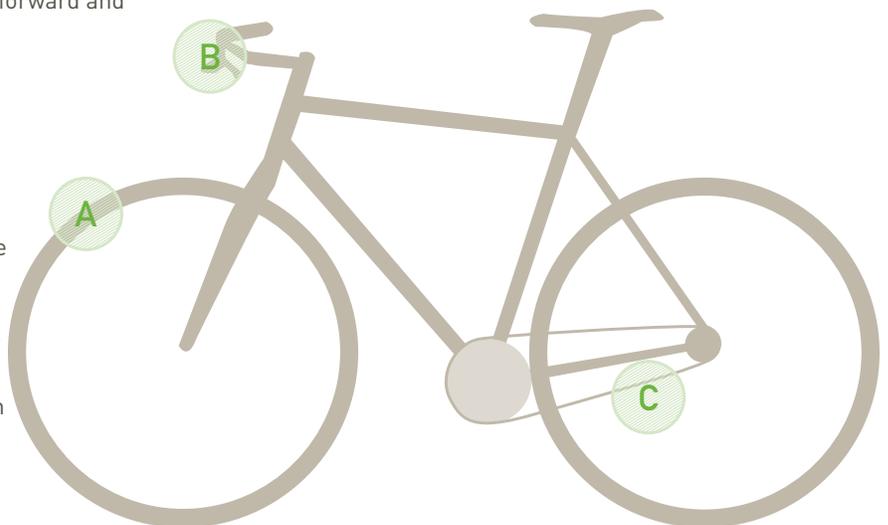
C = Chain: The chain should be free of rust and should not squeak when spinning. Have a student check the color of the chain (it should be black or silver) and spin the pedals backward to listen for squeaks. Also ask the student to press one finger to the chain. If the finger comes away with a smudge mark, then the chain is properly lubricated. If it comes back clean, then the chain may need lubricant. (Remind the students to wipe this oil on their tires, shoes, etc., rather than on their clothing.)

QUICK RELEASE

Quick = Quick Release: Not all bikes (especially childrens') have quick releases. These are slim levers often found on the hub of the wheel and sometimes on the seat to provide an easy way of removing these components. Quick releases should be closed and secure to make certain that wheels and seats don't become loose when riding. Quick release levers are closed correctly when the lever is curved in toward the bike, the word "close" is visible on the outward-facing side of the lever, and the full force of the hand is required to open the lever. If this is not the case, open the lever using the adjusting knob on the opposite side to adjust the tension and then re-close. Keep adjusting until the lever encounters resistance halfway through the travel of its arc and requires the pressure of the heel of your palm to completely close.

CHECK THE WHOLE BIKE

Check = Wheel Spin: Hold each end of the bike up and ask a student to spin the wheel and listen for any rubbing against the brakes or frame. Also lightly bounce the bike to check for any unusual rattling or loose parts.



ON-BIKE ACTIVITY

ENTERING THE ROADWAY

Activity: 40-60 minutes

Materials: Cones, sidewalk chalk to label course, and volunteers to direct students.

Setup

Background: This lesson is best taught on a low traffic street. The street can be blocked off by police markers, or cones can be placed for increased visibility. The length of roadway should be at least 150 feet and the width should be at least 25 feet. To plan ahead for the following activities in this lesson, use a street that has a four-way intersection that can be used for riding exercises. The roadway would ideally have two driveways, one on each side of the road. The roadway should be relatively free of parked cars and traveling automobiles except for two cars that are used as props. These cars should be placed immediately before each driveway as the bicyclist approaches the driveway. This will put the cars in position to act as visual barriers for bicyclists emerging from the driveway. Use cones to represent the cars if cars are not available.

It is also recommended to have students wear bright-colored or retroreflective vests when riding on the street.

Part 1: Predictability: Ride on the Right

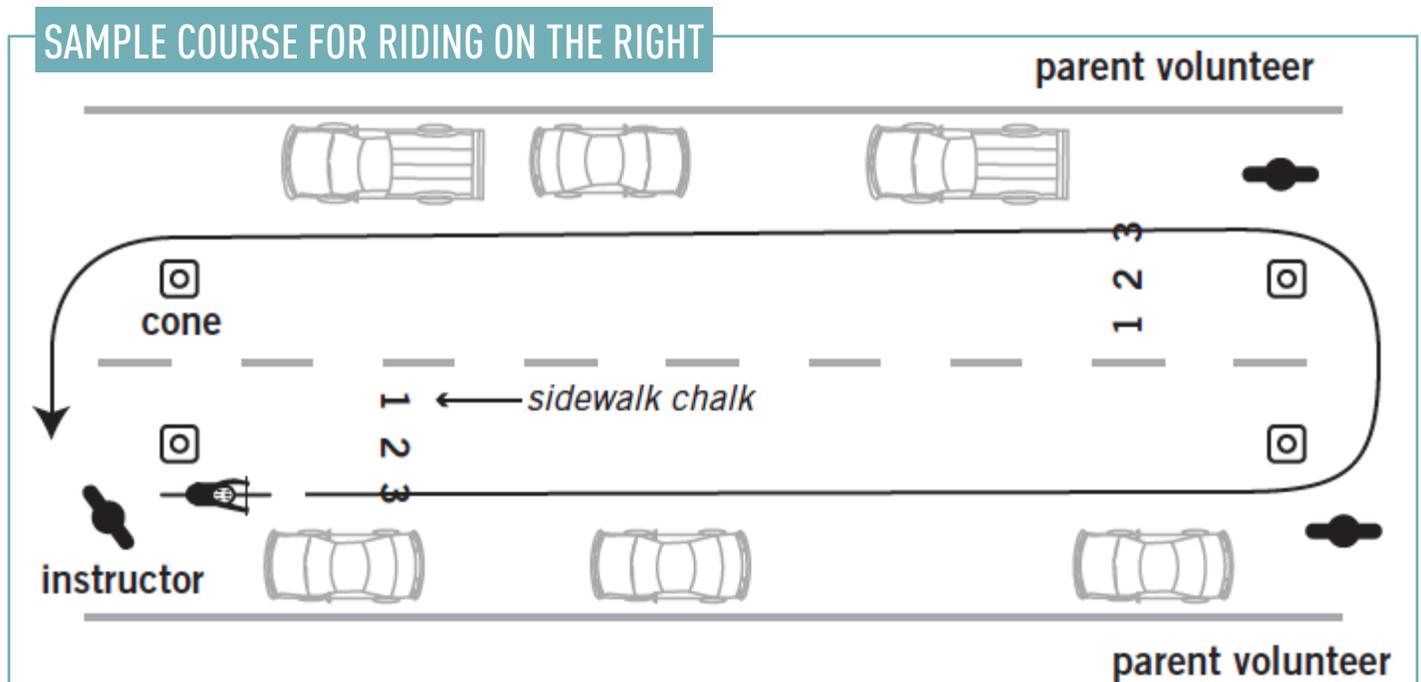
BACKGROUND

What: A riding lesson that teaches students to ride on the proper side of the street.

Purpose: On-the-bike experience of proper road positioning will train youths to ride predictably and safe.

STEPS

1. During the first part of this lesson, teachers will explain to students again why they should follow the same rules as an automobile. All vehicles follow the laws and are predictable in their actions. Bicyclists must ride on the right, follow traffic signs and use the same rules as cars so they don't get into crashes with motorists.
2. Explain and demonstrate the activity.
3. Students will line up at one end of the street and ride in a straight line down the right side of the street (practice in two groups of 15).
4. Where there are cars parked on the street, bicyclists should not swerve. Rather, they should stay three feet away from the car so you can not be hit by an opening car door. If there are no cars for the rest of the block, students can move closer to the curb.
5. Students will pass the car and ride to the end of the street. A volunteer will be at the end and instruct the students to go back down the other side of the street.
6. Have the students go around this circle a couple of times to get the students warmed up and used to the movement.
7. Switch out students to allow the second 15 to go.
8. This same rotation will be used for the next exercises.



Part 2: Driveways

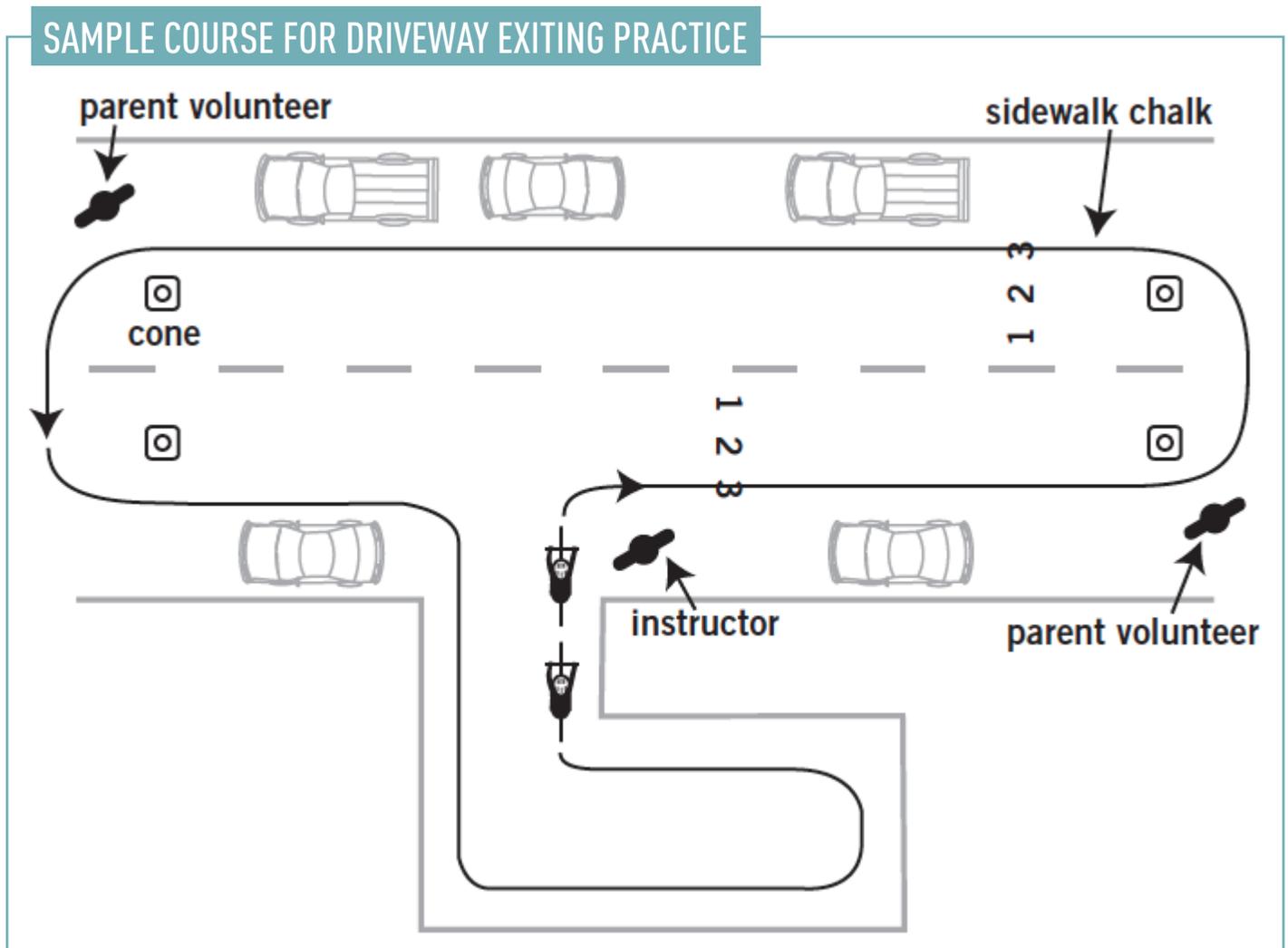
BACKGROUND

What: Riding activity that demonstrates a right turn out of a driveway.

Purpose: Using driveways is a good way to introduce intersection maneuvers, such as turning and looking for oncoming traffic. Since failing to stop before entering the street at driveways is the number one cause of child fatalities on bicycles, this lesson should be stressed as different than ordinary intersections.

STEPS

1. Have 10 students ride around the loop.
2. One student will emerge from the driveway at each side of the road, and stop and signal before entering the roadway. If there are obstructions, tell the students to ride out slowly to see past that obstruction, but wait to enter the travel lane.
3. The student should make a right turn when it is clear. Instructors should take students out of the loop if it gets too crowded. To expedite the exercise, always have a few students waiting in line to emerge from the driveway.



Part 3: Introduction to Intersections

BACKGROUND

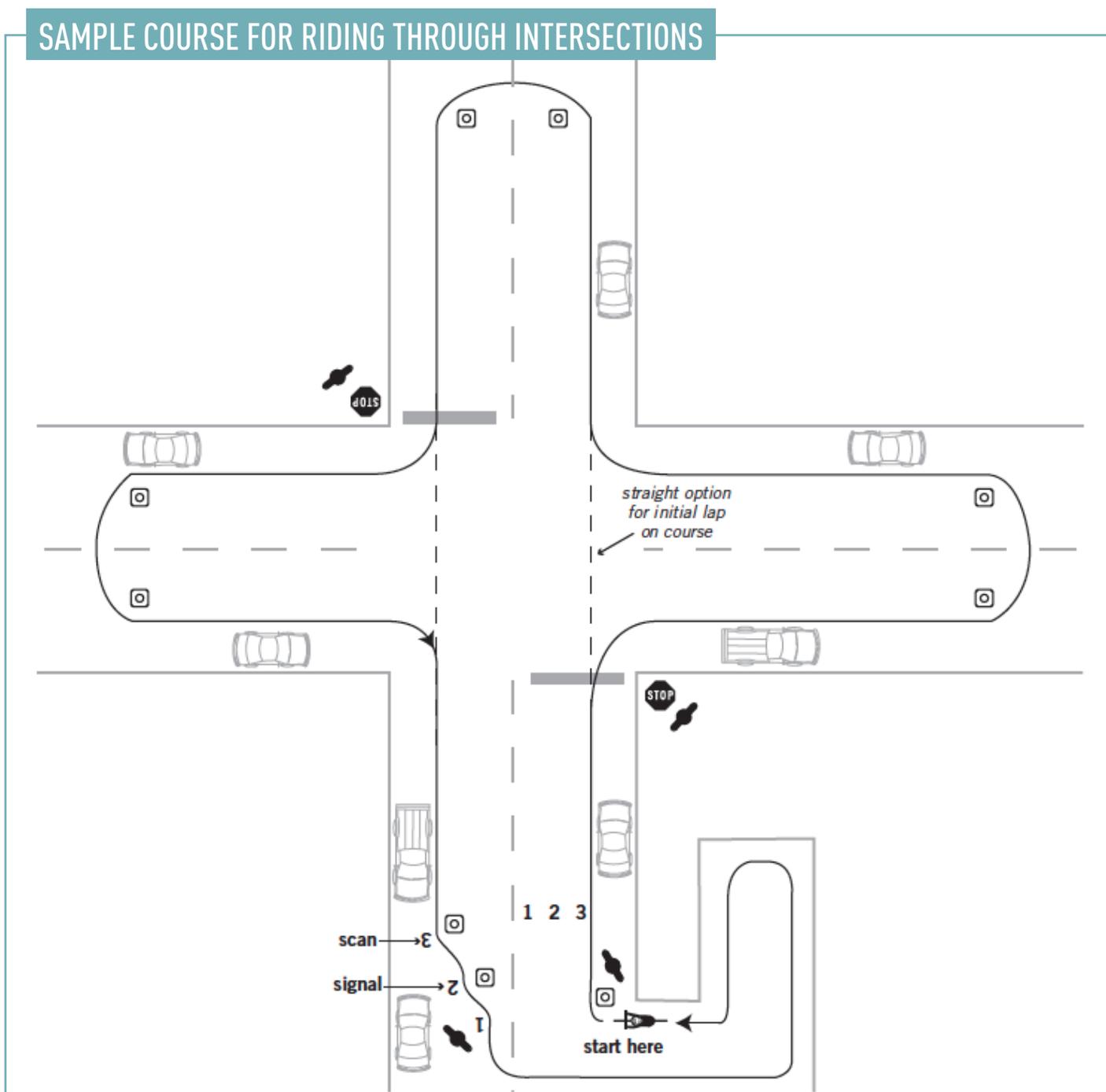
What: A discussion to introduce intersections and explain their types.

Purpose: This introduction to intersections is the first element in a series of discussions and activities to teach students the proper method of moving through an intersection. Moving through an intersection is complex and essential for safe riding. In this lesson, we will focus on moving straight through an intersection and turning right. In the next lesson we will cover turning left.

The same street can be used as in "Ride on the Right". The intersection must be added to this exercise. Because of adding the intersection, at least 25 feet of the intersecting streets will be used for the activity. Place a stop sign at each street that is coming into the intersection.

STEPS

1. Introduce students to the intersection and demonstrate the turning procedure. There are many types of intersections but the activity is always the same. Riders can go straight, left, or right. It is important for students to be in the proper position when approaching and maneuvering through intersections. The turning movement is the same as when leaving a driveway.



2. To start with, we know the cyclist rides on the right side of the road. Cyclists must vary their positions on the road when they want to make different turns.

Turn right: The students will remain in the same position (on the right side of the road) and signal right. They must watch for pedestrians crossing in front of them and give them the right of way.

Go straight: The students will look back and move a little bit more into the automobile travel lane and go straight through the intersection. Once crossed, bicyclist will edge back to the right.

Turn left: Depending on the age and experience of the students, cyclists will approach left turns differently. We will cover left turns in more depth in the next lesson, however a brief breakdown of the three types of possible left turns are:

- **Pedestrian Left:** Best for young riders, cyclists dismount and walk their bikes through the crosswalks to make their left turn.
- **Box Turn:** Good for novice riders, cyclists stay mounted but stay to the right and turn left using a two step process.
- **Conventional Left:** Good for more advanced riders, cyclist will need to get to the left side of the far left lane. This is done by looking back, signaling, looking back again and moving from Position 3 through Position 2 and into Position 1. Left-turning cyclists must then scan for and yield to oncoming traffic.

4. Types of intersections include uncontrolled, stop sign, and stop light. Instructors should review the right-of-way rules for these types of intersections and the difference between stop and yield.

Types of Intersections

UNCONTROLLED: an uncontrolled intersection does not have signs or a stop light. Riders must slow down at these intersections (as if everyone has a yield sign) and decide if they have the right of way to go through. Remember the right of way rules (see Right of Way Box).

Regardless of the intersection type, walkers always have the right of way.

SIGNED: signed intersections will generally have two or four signs. Many intersections will only have two stop signs. The people with no signs go through the intersection slowly (as if they had a yield sign) but the cyclists who have the stop signs must wait until all cars and pedestrians in the non-signed lanes have passed. If there are four stop signs, all cyclists have to stop and the normal right-of-way rules apply. Remember a stop sign has to stop for a yield sign.

RIGHT-OF-WAY RULES:

First to stop: First person at the intersection goes through the intersection first.

Right goes first: When two cars get to the intersection at the same time, the person on the right goes first.

Straight goes first: When two people are directly across from each other, the one that is going straight goes first.

LIGHTED: Red means stop. Green means go. Yellow means slow and stop. So, if you are approaching an intersection and the light turns yellow — STOP. But never stop in the middle of the intersection, even if the light turns yellow. Cyclists can usually take a right turn on red; the only time they are prohibited is when a sign says so. (They can also take a left on red as long as they are going onto a one-way street).

Part 4: Moving Through Intersections

Instructors should verbalize and then demonstrate each turning procedure before having students run the exercise.

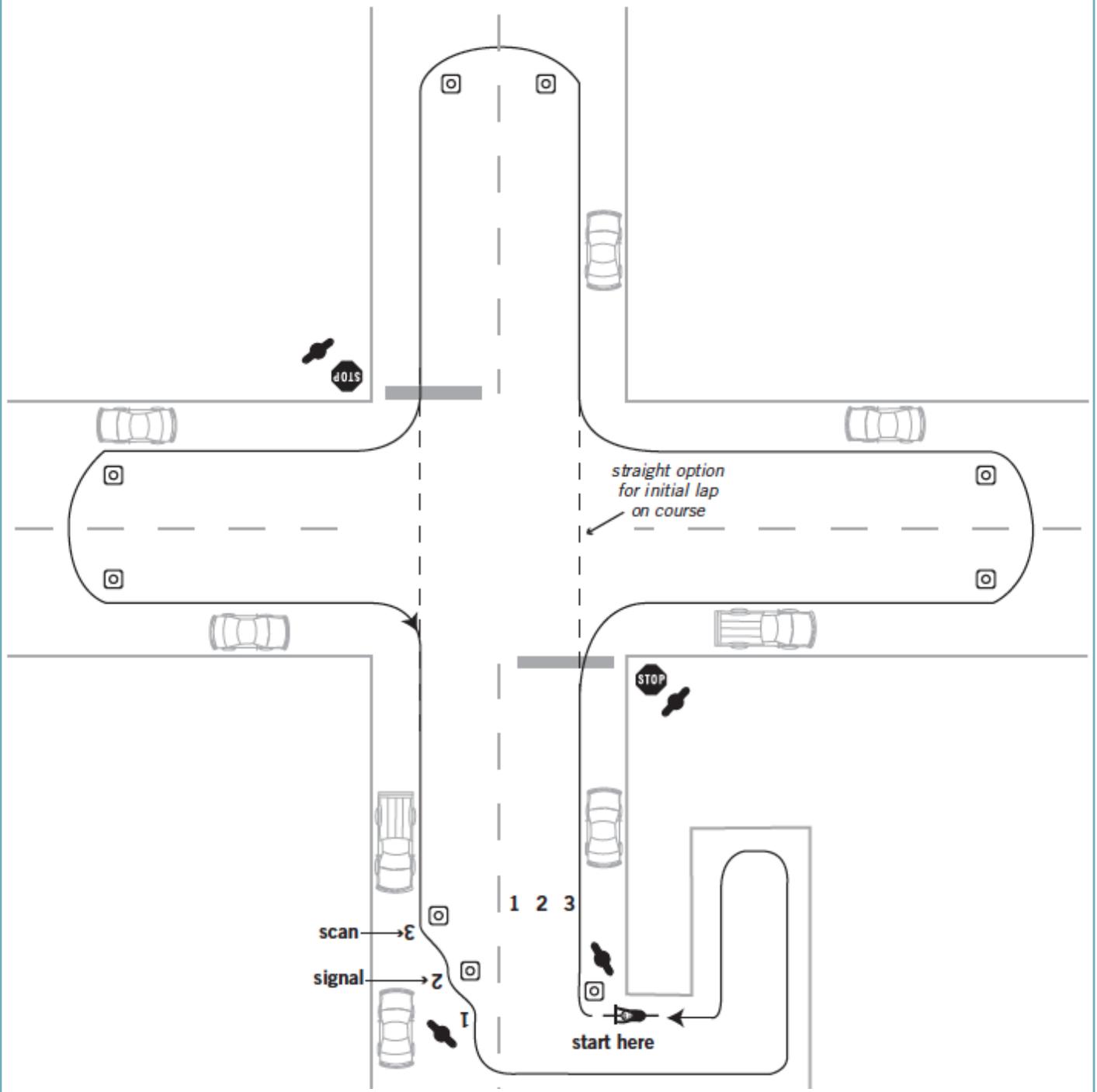
Right turn

1. Split the students into four groups around the intersection.
2. Cyclists will ride up to the intersection on the normal side (right side) of the road and signal right.
3. They should stop and look for traffic and pedestrians. Volunteers or students not participating can act as pedestrians.
4. Cyclists should turn into the street just like they did in the driveway demonstration.
5. After making the turn, students should stop and line up to go again starting from the new street.

Straight

1. If time permits, introduce riding straight activity.
2. Remove two of the stop signs that are across from each other.
3. Students will maintain the same positions and practice straight and right turns simultaneously.
4. Have students alternate between right and straight movements through the intersection. This movement should alternate regardless of the traffic sign.
5. Right-of-way conflicts occur. Stop the exercise and discuss the right-of-way conflicts. What is the proper thing to do? Continue the activity.

SAMPLE COURSE FOR RIDING THROUGH INTERSECTIONS



LESSON

03



On the Street

Overview: Students will be presented with a review of the most common types of hazards they may encounter while riding a bicycle. Then students will learn and practice the three types of left-hand turns to maneuver through intersections.

LESSON 03: ON THE STREET

INTERSECTIONS CONTINUED: LEFT TURNS AND COMMON HAZARDS

Discussion and Demo: 5-7 minutes

Materials: “12 Hazards” handout.
Optional: “12 Hazards” poster.

DISCUSSION & DEMONSTRATION

This discussion will help raise the students’ awareness of hazards they may encounter as they bicycle to school and around their community. You may enlarge a copy of the “12 Hazards” picture to make a poster for use as a visual aid. If you do not use the poster, you may simply discuss the hazards with the students and pass out copies at the conclusion of Bike Day.

Ask students to raise their hands to identify things (in the picture, if you are using it) that could be dangerous to someone riding a bicycle. The responses can include the following:

1. Driveway or alley crossings

Driveways and alleys should be treated like streets: before students cross they should always make sure that a car isn’t pulling out or turning in. They should stop, look left, right, and left again before crossing. Also, students should always stop and look before pulling out of a driveway or alley themselves – no shooting out!

2. Pedestrian

Bicyclists are required by law to yield to pedestrians on the sidewalk or in a crosswalk. If pedestrians walk in front of a bike, students can ring a bell or horn if they have one, or shout out (“Excuse me, please!” or “On your left!”) to make the pedestrian aware of their presence. If they don’t get out of the way, they should slow or stop if necessary to avoid them.

3. Moving car

When bicyclists fail to follow traffic laws, motorists don’t know what they’re going to do next. Riding in a straight line, signaling turns and stopping at street crossings all help car drivers know what you’re doing.

4. Parked car

When cars are parked on the street or in driveways, it can be hard to know if someone is in the car and ready to pull out. Also, drivers may open their doors without looking for bicycles first.

5 & 6. Train and train tracks

Before crossing railroad tracks always stop, look left, right, and left again, and listen to make sure that there isn’t a train approaching. If you see a train, never try to beat it across the tracks, and always obey crossing signals. Bicycle tires can get stuck in train tracks and cause a nasty spill. To avoid getting caught in the tracks, bicyclists should try to cross train tracks at a 90-degree (right) angle.

7. Other bicyclists

The other bicyclist in the picture is riding toward you on the wrong side of the street (which is extremely dangerous), is not wearing a helmet and is carrying a package. Reinforce for students that they should always wear a helmet and only carry things that can be secured in a backpack or basket.

8 & 9. Potholes and cracks

A hole or crack in the sidewalk or street can send a bicyclist flying. Students can avoid dangerous conditions by scanning the area ahead of them and going around these hazards.

10. Leaves

When it rains, leaves can stay damp and slippery long after the pavement is dry. Even dry leaves can cause a bike to slip. It’s a good idea to avoid leaves whenever possible. If you do ride over leaves, don’t brake or turn suddenly, which will increase your risk of wiping out.

11. Sewer grate

Some sewer grates have holes wide enough for a bike tire to slip into. If you don’t have space to share the lane with traffic while avoiding a sewer grate, move to the middle of the lane until you’ve passed the grate.

12. Angry dog

Different students probably have different ideas about the best way to deal with an angry dog. You can discuss it democratically as a class and share experiences and expertise, but bear in mind that certain responses (such as attempting to pet or make friends with the dog) should probably be actively discouraged.

ON-BIKE ACTIVITY

LEFT TURNS

BACKGROUND

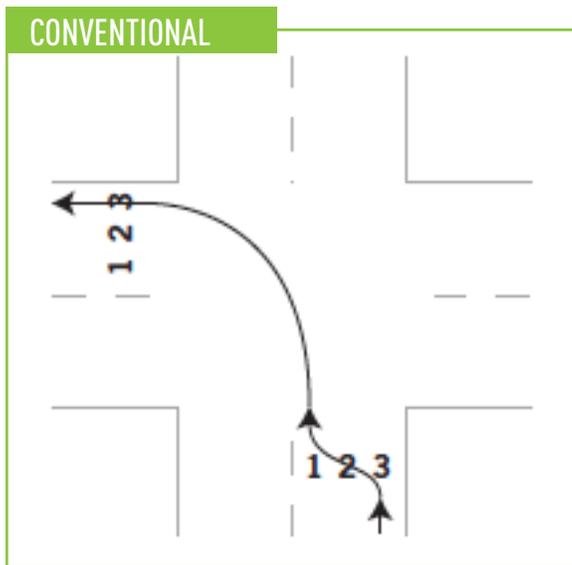
WHAT: This lesson will teach the three methods of turning left through intersections.

PURPOSE: To train students the proper method of moving through an intersection.

The left turn is a little more complicated than the right turn. There are three ways to make a left turn and each is important to use in a particular situation. Even the best cyclists will often use the “two corner” or pedestrian style turn in very heavy traffic, or for example if they want to go to the mailbox on the opposite corner (demonstrate this).

Conventional

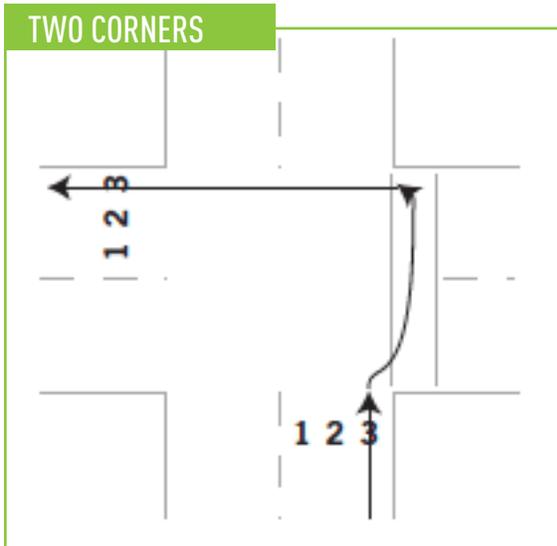
The conventional turn (see graphic) requires cyclists to look back, hand signal, look back again, and position themselves in the left side of the lane (or in the left lane of the roadway). They will stop at stop signs and scan for and yield to oncoming traffic. The bicyclists will then turn into the opposite lane and end up on the right side of that lane in position 3, the same position they would be in when riding. This type of turn is not advisable for riders ages 8 and under or for inexperienced riders in high traffic.



Two corners

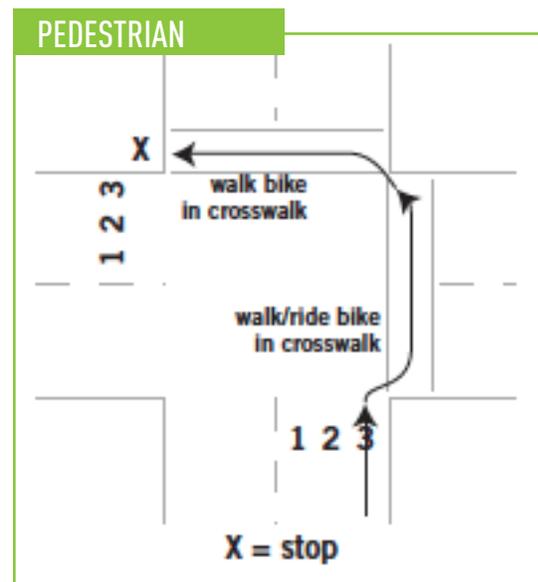
The two-corner turn allows the bicyclist to stay at the right side of the travel lane (use this approach when the road is really wide or where there is heavy traffic, and usually a traffic light at the intersection). Riders should use the stopping hand signal and ride slowly through the

crosswalk to the corner of the street. Then they should reposition their bike in the street with the rest of the traffic and ride straight through the intersection when the light turns green or when they have the right of way.



Pedestrian

When cyclists cross as a pedestrian, they first walk or ride slowly through the crosswalk (as in the Two Corners turn) and then dismount their bike. Bicyclists then become pedestrians and walk their bikes to the next corner. Cyclists will tend to do this when their end destination is at that far corner of the intersection.



1. Instructors should demonstrate each type of left turn individually and have the students practice in a similar fashion to running the above right and straight turns.
2. After the students master one turn, the instructor should explain and have students attempt the next.

ADDITIONAL ON-BIKE ACTIVITIES

If time allows, here are additional on-bike activities that students may engage in.

SCRAMBLE DRILL

Activity: 10-15 minutes

Materials: Cones and chalk

Description: This is a warmup exercise that will help you explain to the cyclists how to be predictable and why they should follow the rules of the road.

Have cyclists line up on one side of the paved area you are using. Explain that they may ride wherever they want when you blow the whistle as long as they stay on the designated area of the pavement. Use whole court if a basketball court or tennis court is being used; otherwise mark off an area about 30x60 feet in diameter.

Blow the whistle and let the chaotic riding begin. Give cyclists about 2 minutes and then blow the whistle for them to stop.

Have the cyclists line up along the side again and discuss what just happened.

Ask: What would happen if cars were allowed to drive wherever they wanted like you just did? To avoid accidents, we have rules of the road that everyone must follow. When you are riding on the street, you are considered a vehicle, just like a car, van, or truck, and you must follow all the same traffic rules they do. Not only is this the law, but it will help to keep you from getting hurt.

POWER PEDAL POSITION, MOUNTING AND PUSHING OFF

Activity: 10-15 minutes

Materials: None

Description: This drill will teach cyclists the correct position to be in for starting off when cycling. By having their foot on the pedal in the proper push off position, cyclists will be able to start up quickly and efficiently. This will enable them to be predictable and to cross streets and enter traffic without stumbling and falling.

Have cyclists line up along one side of the court or parking lot.

Demonstrate how if your feet are on the ground and you don't know where the pedal is, you will fumble and take a long time to get started.

Teach the **Power Pedal Position:**

- Stand over the bicycle, or sit on the seat if your feet can touch the ground.
- Place one foot on the pedal in the 10 o'clock position (or 2 o'clock position as in the photo below). It doesn't matter whether you use the right or left foot, but you should be consistent and always use the same foot so this skill becomes a natural habit.

Choose two campers or two coaches. Have one cyclist put their foot in the ready position and the other stand over the bike with their feet on the ground. Say "Ready, Set," and blow the whistle. Show how the cyclist in the ready position got off to a smoother and faster start.



Now you are ready to get a good push when the traffic light changes, when there is a break in traffic to cross the street, or when the group starts riding so that you don't get left behind.

Have campers line up and get in the ready position. Call on them one at a time to try this new skill. Tell them to pedal across to the other side of the court and wait there until everyone is finished with the exercise. Repeat the exercise until you feel that everyone understands.

SNAIL RACE

Activity: 10-15 minutes

Materials: Cones and chalk

Description: This activity helps campers practice the Ready, Set, Go mounting and pushing-off skill they just learned, as well as practice maintaining control of their bicycle at low speeds.

Set up 2-4 lanes about 5 feet wide and 40 feet long. Use lines already on the pavement or sidewalk chalk or tennis balls.

Divide cyclists into groups for each lane. Cyclists should line up in their groups at one end of the lanes.

Explain the rules:

You must start in the Ready Position we just learned. When the whistle blows, push off and go as slow as you can. You must stay in your lane, and you may not put your foot down. The last one to cross the finish line wins. If you put your foot down or weave out of your lane, you are eliminated.

Have one coach positioned at the start line and one at the finish line. Conduct a heat elimination to find an overall winner.

BRAKING AND STOPPING

Activity: 10-15 minutes

Materials: Cones and chalk

Braking

Discuss the three different hand-braking combinations and their advantages and disadvantages:

1. Front brake only

- Unsafe, can cause you to flip over the handlebars.
- Can cause your rear wheel to skid as too much force is on the front of the bike.
- Not as powerful, shorter stopping distance.

2. Rear brake only

- Can cause you to skid.

- Less powerful than the front brake, further stopping distance.
- Rear brake lever is usually installed on the right handlebar as this hand is stronger for right-handed people. If you are left-handed, you may want to consider switching the rear brake lever to the left handlebar.

3. Both brakes together

- Safest combination, both brakes should be applied with equal pressure.
- Most powerful of all, furthest stopping distance.
- If you skid, the front brake is probably being applied harder than the rear brake.

Stopping

After applying brakes, place one foot on the pavement. Remain seated if you can reach the ground, or stand over the bike. If you are finished riding, dismount your bike after coming to a complete stop, with your foot down on the pavement. If you will be continuing to ride, place the other foot on the pedal of your choice in the 2 o'clock ready position.

Activity

Demonstrate and explain the following activity, and have the cyclists perform it several times. Cyclists should line up at the starting line. One by one have them start off, in the ready position. They should accelerate enough to get up some speed, and then they should stop at the stop line. Use two lanes and go in a circular motion, doing one lap of each of the three different braking situations described above. Cyclists will discover the difference in stopping distances for each braking situation.

RIDING IN A STRAIGHT LINE

Activity: 10-15 minutes

Materials: Cones and chalk

Description: This drill is intended to introduce cyclists to the concept of riding in a straight line and in a group.

The following points should be explained and discussed prior to starting the drill:

1. We ride in a straight line so that our actions are predictable to other bicyclists, drivers of vehicles and pedestrians.
2. The proper distance between cyclists when riding in a group is about two bicycle lengths, or you can use the two-second following distance that drivers of vehicles use. Pick a spot on the pavement or a street pole or other object on the side of the road. When the cyclist in front of you crosses that spot, count very slowly: “one-one-thousand, two-one-thousand.” You should not have crossed the spot you chose before you have finished counting.
3. We do not pass other cyclists as that would take us out of our straight line and cause us to be unpredictable. If the person in front of you is going too slow, you must maintain the proper following distance and wait until you get to a stopping point such as a stop sign or red light. You may then ask them to switch places with you.

Activity

Have cyclists line up. They should be in the ready position. Cyclists should start off one at a time and ride on the designated lines. The next cyclist may start off after a proper following distance has been obtained. They should ride in a circular pattern and maintain proper following distances. They should stop at the starting line each time around to see if anyone needs to pass them. If someone is going too slow, the cyclist behind him may not pass until they get back to the starting line. They must also maintain the proper following distance.

SCANNING

Activity: 10-15 minutes

Materials: Cones and chalk

Description: This drill teaches cyclists to look behind them while riding without swerving.

This helps cyclists check behind them when cycling on the street to see if cars are coming. It should be used frequently: at least every few minutes, or several times per block, and always before turning or crossing a street.

Activity

One coach stands at either end of the line. The coach at the starting line holds a brightly colored object such as a water bottle, tennis ball, or piece of colored cardboard. The second coach stands at the end to give the cyclists feedback and instructions.

The cyclists ride down the line one at a time. They use the skills learned previously, such as the ready position, and riding in a straight line. After the cyclist starts off, the coach holds the object up and to the side in one hand. When the cyclist gets about halfway, he looks over first one shoulder and then the other,* to see which hand the coach is holding the object in. When he gets to the end of the line, he tells the coach waiting there which hand the object was in. The coach tells him whether or not he was correct and also gives him feedback on his performance. The cyclists then ride down the other line and back to the starting line to repeat the exercise.

*Start with left shoulder only. Then repeat with right shoulder.

STEERING AROUND HAZARDS

Activity: 5-10 minutes

Materials: Chalk and cones

Description: This drill gives cyclists practice in maintaining control of their bicycle at all times.

Activity

Setup halved tennis balls (the hazards) about 3 feet apart (2 paces).

Cyclists should zigzag around the halved tennis balls at a pace that will allow them to maintain balance yet turn corners without skidding, stopping or putting their foot down.

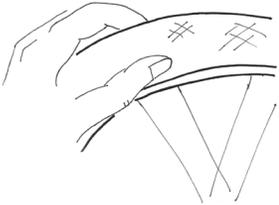
Demonstrate the course and then have cyclists line up and try it.

APPENDIX & HANDOUTS



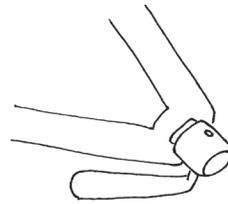
ABC QUICK CHECK

A = Air



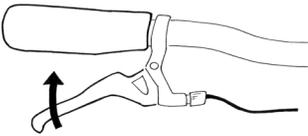
Check the air pressure in your tires. You can do this with a tire gauge or with your fingers. The recommended pressure range is printed on the side of the tire in PSI. If you do not have a tire gauge you should squeeze the tires to make sure they are very firm.

QUICK = Quick Release



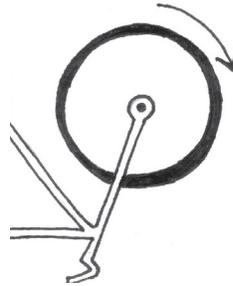
Check to make sure all quick releases are closed and secure. It could be very dangerous if your wheel or seat came loose.

B = Brakes



Check to make sure your brakes are working properly. Squeeze each brake individually and try to push your bicycle forward. If the wheels don't move, your brake is tight enough. If the wheels do move, you need to adjust the brake.

CHECK = Wheel Spin

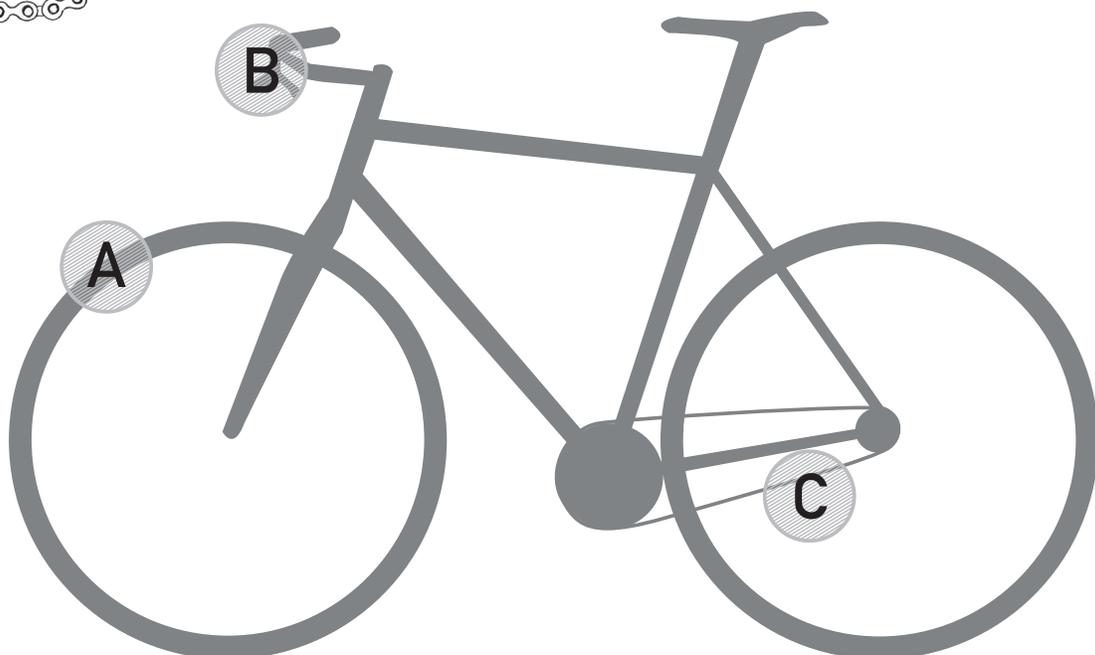


Check the wheel spin to make sure your brakes aren't rubbing against the rim. You can do this by either flipping your bike over or lifting up each wheel individually and spinning the wheel. If your brakes are rubbing, check your rims for warping and check your brakes for alignment. Also lightly bounce the bike to check for any unusual rattling or loose parts.

C = Chain



Check the color of the chain. It should be silver/gray not orange and rusty. Also listen to the chain spinning. You should not hear any squeaks. Clean and oil the chain if necessary using a rag and chain lube.

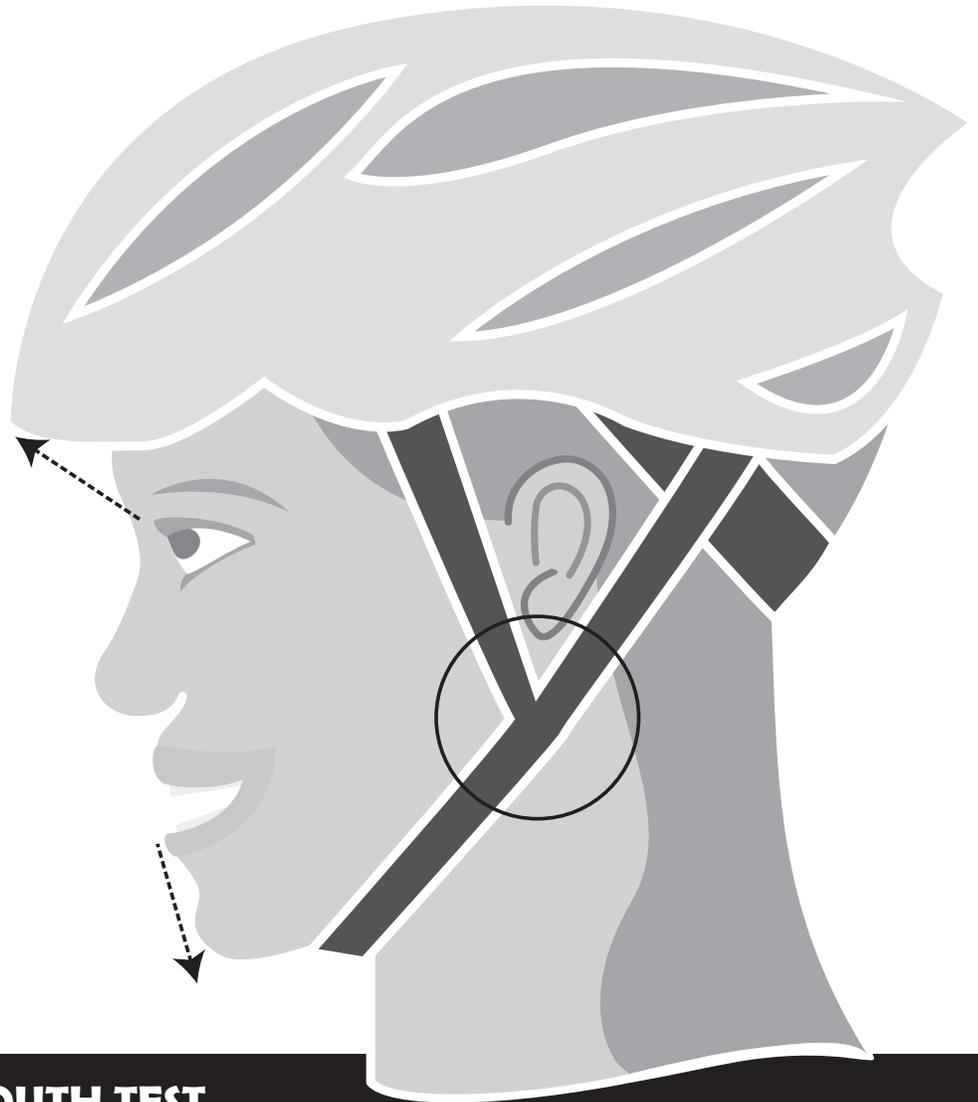


Ride safe - ride smart

Wear a helmet!

Protect your head.

Think of a helmet the same way you think of a seat belt. It won't prevent a crash, but it could save your life if you're ever in one. It's important that a helmet sits on your head correctly and that the straps are adjusted to fit. Use the **eyes, ears, and mouth test** below to check the fit of your helmet.



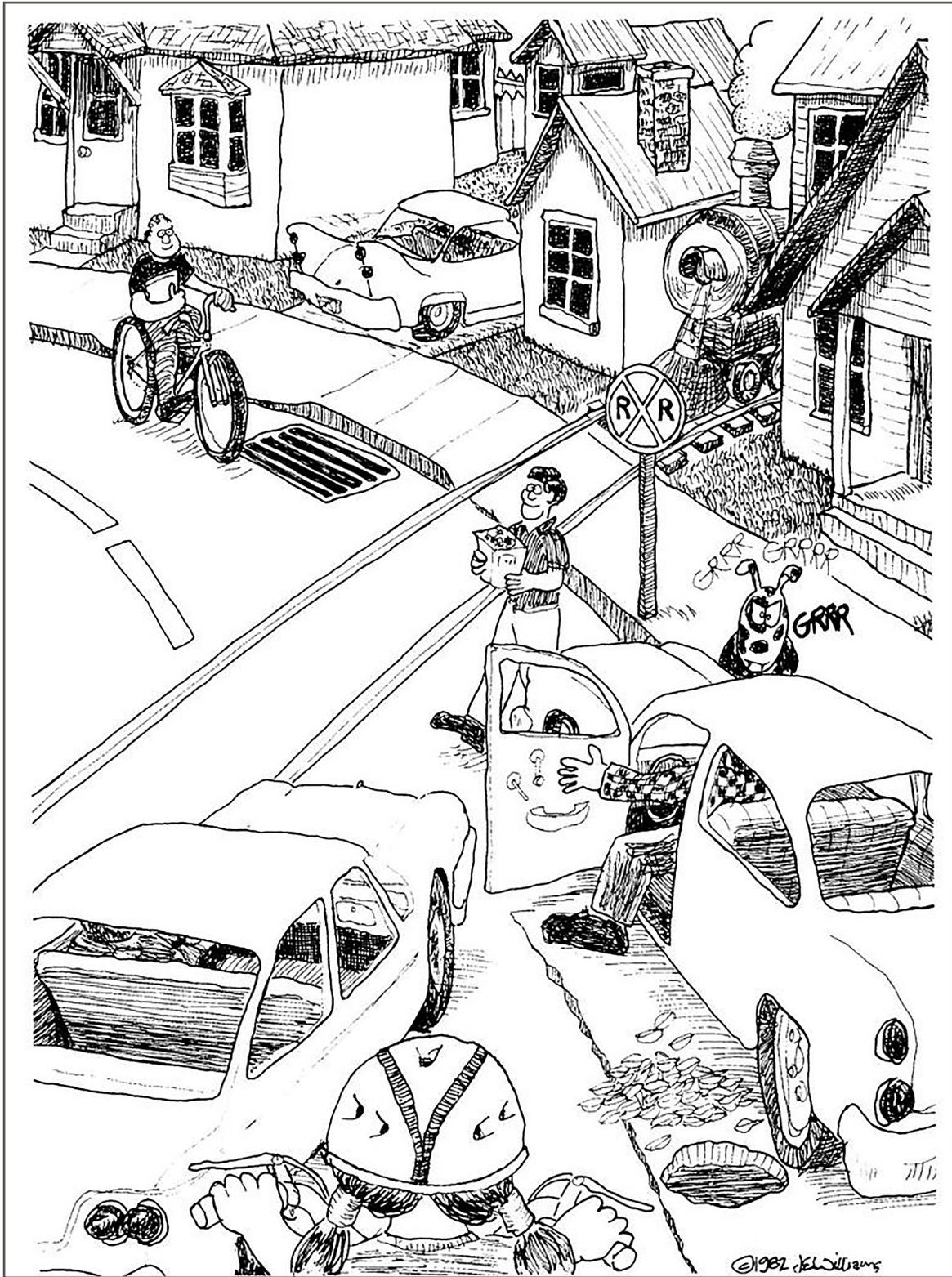
EYES, EARS AND MOUTH TEST

Eyes: When you look up (with your eyes only), you should see the helmet's front rim (not just the visor, if it has one). If you can't see the rim, tilt the helmet forward until you can.

Ears: With the chin strap buckled, the helmet's two straps on each side should meet just under the ear to form a "Y". If they don't, move the straps up or down through the sliding junctions.

Mouth: With the chin strap buckled, open your mouth wide. You should feel the helmet push down on the top of your head. If it doesn't, adjust the strap length until the helmet fits properly.

Find the twelve hazards



Pretend you're the cyclist at the bottom of this picture. Can you see 12 hazards that could cause an accident?

Release and Consent Form

Dear Parent/Guardian:

Your child has been given the opportunity to participate in the Kids on Wheels Bicycle Safety Program. The Program is a comprehensive curriculum offered by the Active Transportation Alliance that will teach bicycle safety through classroom activities and on-the-bike skills practice. Students will learn skills such as helmet use, hand signals, traffic signs, and maneuvering through intersections and out of driveways. The bicycle training will be run on the school grounds and surrounding community streets.

All participants must have this consent and release form signed by a parent or legal guardian. The following conditions apply:

1. All participants will be taking part in physical activity, mainly bicycling. Individuals in average health will be able to comfortably participate; it shall be each individual's responsibility to be sure they are in a healthy condition.
2. Bicycle riding will occur both on the school grounds and on streets, therefore, all activities are potentially dangerous. Participants must adhere to the rules set out in class in order to assume responsibility for their risk.
3. Neither the _____ schools nor the Active Transportation Alliance will assume legal liability for any program participants.
4. If my child is taking the course using his/her own bicycle and/or helmet I agree to inspect the bicycle and/or helmet prior to the course to ensure these items are safe for my child's use. I understand that the Active Transportation Alliance cannot inspect the bicycle or helmet for safety and that I must do so. I specifically understand that bicycle helmets are considered unsafe if they have been worn in any crash, no matter how slight, or dropped from a height of more than three feet onto any hard surface or are over five years old. I understand that this is the case even if the helmet shows no visible signs of damage.

I _____, the undersigned, give my consent for _____ to participate in the Kids on Wheels program. I hereby release the facilitators, _____ schools, its employees and volunteers, the Active Transportation Alliance and any program participants from any and all liability with relationship to participation to the Kids on Wheels Bicycle Safety Program.

Parent / Legal guardian signature: _____

Date: _____