Let's Go NC!

A Pedestrian and Bicycle Safety Skills Program for Healthy Active Children

Grades 4-5

Lessons 1-5

Let's Go Biking!

Let's Go Biking!

Getting Ready to Ride

Grades 4-5 Lesson 1

Getting Ready to Ride

Time: *30-40 minutes*

Studies have demonstrated that skill-building activities are the most effective way to promote student retention of bicycling safety skills. Lesson objectives set the stage for building safety skills, which are emphasized through students' participation in class activities. This curriculum does not cover every possible scenario that a child may encounter as a bicyclist but instead addresses the basic skills needed to be a safe bicyclist. Teachers should use their discretion to break material to accommodate their daily schedule. The Skill Building Activity is an essential component to this curriculum and all lessons should be complemented with the reinforcement of safe bicycling behavior. More time can be spent on practicing skills if children are already familiar with the core material.

Lesson Objectives

The objective of this lesson is to learn the basics about bicycling equipment and rules of the road.

The children will be able to:

- Explain how bicycling contributes to a healthy lifestyle.
- Identify appropriate, safe bicycling equipment:
    - Bike type, size, fit,
    - Bike mechanical condition and maintenance,
    - Helmet fit and positioning,
    - Highly visible clothing, and
    - Lights for visibility in darkness.
- Identify basic traffic signs and signals and their meaning for bicyclists.
- Identify the correct direction for on-road travel.

Why This Lesson is Important:

Bicycling is a fun and healthy activity for children. Yet, cyclists must obey the same traffic laws and markings as motor vehicles. This lesson introduces children to equipment and skills that will help keep them healthy and safe while they enjoy cycling.

Applicable Standards of Learning

Essential Standards

4.PCH.4.2: Identify personal protection equipment needed for sports or recreational activities.	5.NPA.3.2: Explain the benefits of regular physical activity on physical, mental, emotional, and social health.

Common Core

CCSS.ELA-Literacy.W.4.1: Write opinion pieces on topics or texts, supporting a point of view with reasons and information.	CCSS.ELA-Literacy.W.5.1: Write opinion pieces on topics or texts, supporting a point of view with reasons and information.
CCSS.ELA-Literacy.W.4.4: Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.	CCSS.ELA-Literacy.W.5.4: Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.
CCSS.ELA-Literacy.4.6 : Acquire and use accurately grade-appropriate general academic and domain specific words and phrases, […] including those that are basic to a particular topic.	CCSS.ELA-Literacy. 5.6 : Acquire and use accurately grade-appropriate and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships.
CCSS.Math.Content.4.OA.A.2: Multiply or divide to solve word problems involving multiplicative comparison.	CCSS.Math.Content.5.NBT.B.5: Fluently multiply multi-digit whole numbers using the standard algorithm.

Guidance

RED.C.2.1: Identify situations from your daily life in terms of problems and solution strategies.

EEE.SE.1.2: Illustrate personal responsibility in a variety of settings and situations.

P.SE.1.2: Use self determination to build independence.

I.SE.1.2: Integrate personal responsibility into the way you live your life on a daily basis.

Getting Ready to Ride

Materials

- Computer and projector to view *"Getting Ready to Ride"*
- *"Getting Ready to Ride"* video download
- Sign and Signal Cards
- Sample helmets for Skill Building Activity
- Parent/Caregiver Tip Sheet
- ABC Quick Check Handout (Printed on the Back of the Tip Sheet)
- Fitting Your Bike Helmet Handout
- Child Assessment – Worksheet (Pre-Test)
- Child Assessment – Instructor's Answer Key

Preparation

Review the ***Let's Go Biking! Getting Started*** video which can be found in the *For Instructors* portion of the *Let's Go NC! Interface*. This video will help you prepare for teaching the in-class lessons.

Review the ***Let's Go Biking!*** lesson video ***"Getting Ready to Ride"*** to understand how the video will supplement the classroom discussion and see a demonstration of how the skills taught in this set of lessons are performed by children in realistic settings. Reviewing this material will assist you in leading the Skill Building Activities in Lessons 3-5.

Set up AV equipment in advance, and be prepared to ask children the questions indicated during the video pauses. Use the explanations in the lesson plans, as needed, to help children understand the key concepts.

Send reminders to volunteers who will help to set up and assist with the skills-based lessons (Lesson 3-5).

Remind children to bring their Consent Form back to school before Lesson 3 begins.

Have children bring their own bicycle helmets to school (if they have them) for use in the Skill-Building Activity.

Part 1 - Discussion and Demonstration

► **Time:** *30 minutes*

1. **Pre-Test**
2. **Before You Ride**
3. **ABC Quick Check**
4. **Protection When Riding**
5. **Know the Rules of the Road**
6. **Obey Signs and Signals**

Introduction

During the lesson the instructor will…

- **Discuss bicycling as a form of transportation and how it contributes to a healthy lifestyle.**
- **Emphasize that bicycles are vehicles that must follow the same rules of the road as motor vehicles. Go over signs and signals that are important for bicyclists to recognize.**
- **Ask children to complete the Child Assessment. Correct the assessment at the end of class and discuss the answers with children. Note child scores.[Children will do a Post-Test at the end of the course.]**
- **Show *"Getting Ready to Ride"* video that coordinates with Lesson 1. Pause where indicated by the video and discuss the points raised. The main points and explanations are given below.**

Riding a bike as a means to get to where you're going is really good for your body. There are many ways that bicycling contributes to a healthy body by including riding a bike in your everyday life. Below is a list of several ways that bicycling contributes to a healthy lifestyle:

- *Bicycling provides good cardiovascular exercise to improve heart and lung function as well as overall physical conditioning.*
- *Bicycling is a "green" form of transportation that produces no pollution and helps reduce motor vehicle congestion.*
- *Bicycling is an economical way to get to school, parks and other places.*
- *Bicycling can make children more independent and prepare them to be car drivers.*
- *Bicycling is a great way to relieve stress and furthermore, it's fun!*

Discussion Opportunity

Bicycling and a Healthy Lifestyle

Introduce the lesson before starting the video.

Talk to children about going places by bicycle.

Ask children how bicycling contributes to a healthy lifestyle.

Use the list here to help them brainstorm.

We're going to assess what you already know about bicycling, and then watch a video that shows you what you need to know to "get ready to ride!" Later in the course, you will practice the same types of skills you see children performing in the video, so watch carefully. You will need to pay attention because I am going to be asking questions during the video to make sure you understand all of the important points.

1. **Pre-Test**

   [Distribute the Child Assessment – "What Do You Know About Bicycling?" Pre-Test. Allow children a few minutes to complete and collect completed assessments.]

   [After assessments are completed, start the video "Getting Ready to Ride." Be prepared at the various pauses in the video that allow opportunities to discuss key concepts with your class.]

2. **Before You Ride**

   There are several things that you should do before you take your bicycle out on a ride. You need to have permission to ride, a safe place to ride, and a bicycle that is working properly.

Ask an Adult
You should always ask an adult for permission. An adult will make the decision about whether you should ride on the sidewalk or if you are ready to ride on neighborhood streets. Until you master the skills to handle your bike, you should always ride on the sidewalk or a pathway.

Plan a Safe Route
When you ask an adult, be mindful of where they tell you that you can ride. Work with an adult to find a safe route to your destination. If you are riding to a place in your neighborhood such as the school or a friend's house, always follow the safe route that an adult gives you.

Have a Bike That Fits
Before you get on a bike to ride, it should fit properly. You should know about its basic parts and safety equipment. Knowing these things can help build your confidence about riding a bike. Typical bike size and fit is described below.

Bike size and fit
Check to make sure your bike fits. Have an adult help you adjust the seat so you can have a safe and comfortable ride.

Here are some basic tips for proper fit based on frame style:

- **Diamond Frame:** Adjust to stand over the frame with l to 3 inches of clearance between you and the bike.
- **Step-through Frame:** This frame is more versatile and can be adjusted to fit most kids.

Here are some basic tips for adjusting the seat of the bicycle to fit:

- **Beginners:** When you sit on the seat, you should be able to touch both feet on the ground.
- **Advanced:** When you sit on the seat with your foot on the pedal in its lowest position, your leg should be slightly bent.

Discussion Opportunity

Before You Ride

Use the pauses in the video to review the information:

- Ask an Adult
- Plan a Safe Route
- Have a Bike That Fits

Have children discuss their own experiences with getting ready to ride their bicycles.

Note: Recumbent bicycles have their own fit system, which puts the rider in a laid back, reclining position. People of varying abilities choose to ride recumbents because this type of bicycle supports and distributes a rider's weight differently than a typical bicycle. See the **Instructor's Guide** for a more detailed discussion of the different types of bicycles available.

3. ABC Quick Check – Bike Check and Maintenance

Have an adult check your bike before you ride, especially if the bike has been sitting unused for a while. They can help you perform the following Quick Check to make sure your tires have air, brakes work, and the chain turns freely. Use the ***ABC Quick Check Handout*** to get your bicycle ready to ride.

- **A is for Air:** Check the air pressure, spin the wheels and make sure the tires are not worn out. Be prepared to pump up the tires because they naturally lose air pressure over time. The correct pressure is marked on the side of the tire and it only takes a few minutes.

- **B is for Brakes:** Check to make sure coaster brakes will stop the bike by spinning the back wheel and then pedaling backwards. If the bike has hand brakes, check to see that the levers don't hit the handlebars when squeezed and that levers initiate the brakes. Make sure the brake pads are clean, straight and contact the rim of the wheel properly.
- **C is for Cranks, Chain and Cogs:** Grab the crank arms and try to wiggle side to side. There should be no movement. Spin the cranks backwards to see if the chain runs smoothly over the cassette. The chain should look like metal, not rust or black gunk. If the bike has gears, check to make sure the gear levers and derailleurs (gear-changing mechanism) work properly to shift the chain between gears.
- **Quick is for Quick Release:** Some bikes have quick releases on the wheels or seat post. Check to make sure they are tight and closed properly.
- **Check:** After making sure the seat and handlebars are tight and the proper height, have the child ride the bicycle around in a safe place to check that everything works well.

Discussion Opportunity

ABC Quick Check

Review the ABC Quick Check:

- Air
- Brakes
- Cranks, Chain, and Cogs

Ask children, why it is important to check bikes before riding. Have the children had a problem because their bikes didn't work properly?

4. Protection When Riding

There are two basic things to do be protected while riding your bike.

Wear a Helmet!

Bicycle helmets can help prevent serious head injuries that can permanently damage your brain or kill you. They do this by absorbing most of the blow of a fall or crash. The helmet should have a label inside stating that it meets standards of the Consumer Product Safety Commission (CPSC).

- Your helmet should fit your head snugly, but comfortably. Most brands come in a variety of sizes to fit all heads. Use the straps and sizing pads to get it to fit just right. The helmet should sit level on your head and cover the top of your forehead, so that you can put 2 fingers between your eyebrows and the helmet.
- Straps should be adjusted to fit snugly, but not tightly, forming a V under each ear. With your helmet buckled, you should not be able to take it off, rock it from side to side or back and forth.
- A helmet that has been in a crash has done its job by self-destructing. Even if you can't see the damage, it's time to replace the helmet with a new one.

Discussion Opportunity

Protection When Riding

Review the things that children must do to be safe when riding their bicycles:

- Wear a Helmet
- Be Visible

Ask children to raise their hands if they have a bike helmet. Ask how many always wear their bike helmet when riding.

Remind them that it is a law for a child to wear a helmet when riding a bicycle in North Carolina.

Discuss what children should wear to be visible. Why do you need to be visible?

In North Carolina, the law requires that every child under 16 years old wear a helmet when operating a bicycle on any public road, path or right-of-way.

Be Visible!
During daytime, wear white or bright colors that can be most easily seen. It is not a good idea to ride your bike after dark, but if you have to, wear reflective clothing, especially on your lower body. If you must ride at night, use lights. Night time is the most risky time to ride. The most serious crashes happen then. For this reason, you should not ride after dark. If you find you must ride a bike at night, the law in NC requires you to use a bright headlight on the front of your bike and red reflector or red tail light on the back.

It is also a good idea to have clean reflectors on your pedals, wheels, and on the front and back of your bike. Reflective strips on clothing, your bike and your helmet also help make you even more visible.

5. Obey the Rules of the Road

Until you know and understand the rules of the road, you shouldn't ride on the streets. You should always follow these rules when riding. Even then, it is up to a parent or guardian to tell you in what areas you are permitted to ride.

[This is not a comprehensive list, but a good starting point for children in this age group.]

Stop at the End of Driveways
Before entering or crossing the road, stop, look for traffic, and wait if necessary. Failure to do this causes one of the most common types of child bicyclist-car crashes. Always stop at the end of driveways.

Discussion Opportunity

Rules of the Road

Review the Rules of the Road for this age group that is covered in the video. Can you think of others?

- Stop at the End of Driveways
- Ride With Traffic
- Yield to Pedestrians
- Pull Over For Sirens

Did you know all of these rules? Do you follow these Rules when riding your bicycle? Why do we have rules?

Ride on the Right, With Traffic
Riding against traffic is a leading cause of car-bike crashes, especially at intersections, and it is illegal. Bicyclists going against traffic endanger other bicyclists riding with traffic. Always ride with traffic.

Yield to Pedestrians
Stop and let them cross. When approaching pedestrians from the rear, slow down to pass and let them know you are coming by calling out, "Passing on your left." Always yield to pedestrians.

Pull Over For Sirens
Sirens from ambulances, fire trucks and police cars mean you must pull off to the right side of the road and stop just like car drivers. Always stop for emergency vehicles.

6. Know the Traffic Signs and Signals

Traffic signs and signals tell drivers when to stop and when to go. They warn of railroad crossings and other hazards and tell you where you may ride your bike. Bicycle riders, as well as drivers, must obey all traffic signs and signals. A child should be able to read and understand basic signs and signals.

[Cards are included at the end of the lesson to go over what each sign means to an approaching bicyclist.]

Stop Sign - Come to a complete stop and wait until it's clear to go.

Yield Sign - Slow down, check for traffic and wait (if necessary) until it's clear to go. Some Yield signs indicate where to stop to let pedestrians cross safely.

One Way Sign - All traffic must only go in the direction of the arrow and not the other way. Remember, bicyclists should always ride in the same direction as traffic in the roadway.

Do Not Enter Sign - This sign tells you that you may not go this way. They are usually used on one-way streets to tell you that you should not enter the road.

Traffic Lights - Green means proceed, with caution. Be on the lookout. Yellow means the light is about to turn red. For bicyclists, this means you should stop if possible. Often there isn't enough time to get through the intersection before the light changes. Be on the lookout for vehicles that may be clearing the intersection. Red means stop—and that includes bicyclists, too.

Flashing Traffic Lights - Red means come to a complete stop, and then go when it is clear. Yellow means slow down, look for pedestrians and other vehicles, and proceed with caution.

Railroad Crossing Signs and Lights - The railroad crossing sign indicates that the road crosses train tracks. Not only must you watch and listen for a train, but you must cross the tracks at a right angle to avoid having your wheels get caught in the tracks. Some railroad crossings will also have flashing red lights that require all vehicles, including cyclists, to stop for the approaching train. Some crossings will also have a gate to keep vehicles off the tracks. Never go around a gate.

Discussion Opportunity

Know the Traffic Signs and Signals

Pause for each example and talk about the sign with your class:

- Stop Sign
- Yield Sign
- One Way Sign
- Do Not Enter Sign
- Railroad Crossing Sign
- Traffic Signal
- Flashing Traffic Signal

Did you know what to do at each of these signs and signals? If you were riding the wrong way down a street or on the wrong side of the street, would you see these signs and signals?

There are lots of signs and signals related to bicycling that are not covered here. If you have time, or if the children ask about other signs, go over these Signs and Markings. Additionally, there are pavement markings such as Bicycle Lanes and Shared Lane Markings that are not covered in this lesson.

Share the Road Sign - These signs are used where cars and bikes share the same space. The sign reminds motorists that they are likely to encounter cyclists while reminding cyclists that they are sharing the road with motorists.

Bicyclists Use Pedestrian Signal - At some busy or dangerous intersections, bicyclists may be instructed to cross the street like a pedestrian, using the pedestrian signal and walking the bike across the street. It is always OK to get off your bike and cross the street as a pedestrian.

Bicycle Routes - Signed bicycle routes are typically roadways that have less traffic and are good for cycling. They may go to specific destinations. Signage sometimes uses an arrow that can indicate which way the route travels at an intersection. The images at right show U.S. Bicycling Route 1, the NC Bicycling Route 2, and a local bicycle route sign.

Part 2 : Activity

► **Time:** *10 minutes*

The Helmet Fitting Activity will make it much easier for you and your volunteers to assist kids with getting ready at the beginning of each on-bicycle portion of the course in Lessons 3-5. Go through this example to give kids practice wearing a bike helmet and a better understanding of how to fit a bike helmet. Use the ***Fitting Your Bike Helmet*** handout found in the Materials section.

- Using the sample helmets or helmets that kids brought to school today or those that you have in the classroom for the activity, have children work in pairs to practice fitting helmets in preparation for the on-bike lessons to follow.

Review Child Assessment

► **Time:** *5 minutes*

The instructor will review the answers from the Child Assessment given at the beginning of class. Lead a focused discussion on questions that were answered incorrectly by the majority of children.

[Review and discuss the Child Assessment using the Instructor's Answer Key.]

These optional activities are included to extend the lesson into other areas of learning. Most activities presented may be completed within a 20-minute time period or may be assigned as homework opportunities.

Mathematics

Discuss with kids what it means to "commute." A commute is a regular journey of some distance that a person travels on a regular basis. For example, your parents commute to and from work every day.

Using the following formula, have children estimate the miles that they commute each month to school. Then estimate for last month how much it cost to commute by car versus if they used a bicycle.

1. For a child's school trip, estimate **Daily round-trip commute miles: _____**
2. Count **Number of school days last month: _____**
3. Multiply daily round-trip commute miles by number of school days in a month to determine **Monthly commute miles: _____**
4. In North Carolina AAA estimates in 2011 it cost $0.20/mile (gas, maintenance, tires) to operate and $0.46/mile to cover ownership costs (insurance, license, register) for an average car. Use current AAA Driving Costs for NC which can be found at carolinas.aaa.com. Add current operating and ownership costs together to determine **Cost per mile to own and operate a car in NC: _____**
5. Multiply the figures from #3 and #4 together to find **Monthly cost to commute to school: _____**

Answer the following questions related to the activity:

How much would it have cost to commute to school by bicycle instead of going by car? Which is more economical? Make an estimate using the data — how many times more expensive is commuting by car than by bicycle?

English Language Arts

This exercise is about writing a persuasive letter for increasing options for environmentally-friendly travel in your community. Start with having children define and discuss each topic below in small groups as it relates to cycling and walking in North Carolina.

- Motor Vehicle Pollution
- Obesity in North Carolina
- Traffic Congestion in My Community
- Energy Efficiency
- Environmental Stewardship
- Sustainability
- Freedom and Mobility
- Resource Conservation
- Transportation Choices

Have children explore persuasive writing to answer the questions and create a letter to promote environmentally-friendly travel in your community. In this exercise, children should try to get the reader to understand, accept, and take an action on creating more environmentally friendly travel. Give children a specific audience for their letter such as a member of local government. This exercise can be done in small groups or individually.

Have children brainstorm and write clearly in paragraph form. They should provide logically ordered reasons supported by details and opinions. Here are some examples of questions that can be answered to help the persuasive argument for bicycle travel:

- How can riding bicycles impact our community?
- How is bicycle riding environmentally friendly?
- What are the barriers to bicycling in our community?
- How can we make it easier to ride to go places in our community using bicycles to travel?

Signs & Signals

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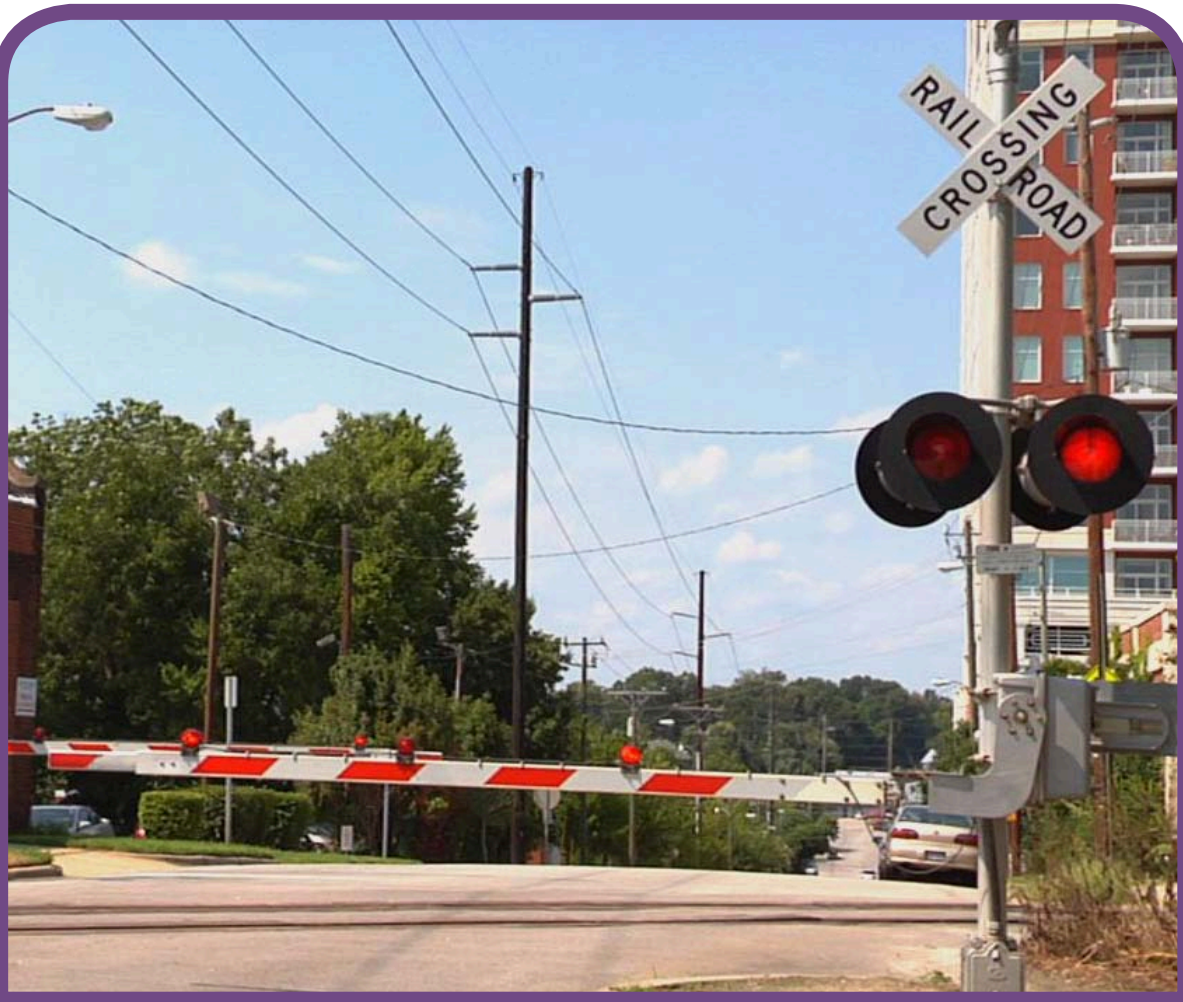

Let's Go Biking!

Parent/Caregiver Tip Sheet

Getting Ready to Ride

Bicycle riding is a fun, healthy activity that people can enjoy all their lives. It is important to remember that a bicycle is not a toy—it's a vehicle! These basic safety tips can help your child have fun AND be safe.

- **Wear a properly fitted bicycle helmet when bicycling** to prevent serious head injuries! Use a helmet that meets standards of the Consumer Product Safety Commission (CPSC). The helmet and straps should fit your child snugly, but comfortably. It should sit level on the head and cover the top of the forehead. Adjust straps to form a 'V' under each ear.
- **Make sure the bike fits your child.** There should be 1 to 3 inches between the child and the top tube (bar) if using a road bike and 3 to 4 inches if riding a mountain bicycle. The seat should be level front to back. Adjust seat height to allow a slight bend at the knee when the leg is fully extended. Handlebar height should be at the same level with the seat.
- **Perform the ABC Quick Check on the bike every time** using the guide on the back of this sheet.
- **See and Be Seen.** Always wear neon, fluorescent, or other bright colors when riding. Wear clothing that reflects light or has reflective tape. Avoid riding at night but if you must, use bright lights so others can see you.

Rules of the Road

Your child needs to practice safe riding behavior and understand the rules of the road before he or she is ready to bike on neighborhood streets. Until they fully comprehend these rules, they should bicycle on the sidewalk. You can help them prepare by going over the following with your child:

- **Go With the Traffic Flow.** Ride on the right in the same direction as other vehicles. Go with the flow, not against it.
- **Obey All Traffic Laws.** When you ride in the street, obey all traffic signs and signals.
- **Yield to Traffic When Appropriate.** Drivers on a smaller road must generally yield for traffic on a larger road. If there is no stop sign or traffic signal and you are coming from a smaller roadway (out of a driveway, from a sidewalk, a bike path, etc.), slow down and look to see if the way is clear before proceeding. Yield to pedestrians.
- **Be Predictable.** Ride in a straight line, not in and out of cars. Signal your moves to others.
- Stay Alert at All Times. Use your eyes AND ears. Watch out for potholes, wet leaves, storm grates, railroad tracks, or things that could make you lose control of the bike.
- **Look Before Turning.** When turning left or right, always look behind you for a break in traffic, then signal before making the turn. Watch for left- or right-turning traffic.
- **Watch for Parked Cars.** Ride far enough out from the curb to avoid the unexpected from parked cars (like doors opening, or cars pulling out).

The A B C Quick Check

A is for air:

Check the air pressure, spin the wheels and make sure the tires are not worn out.

B is for brakes:

Check to make sure coaster brakes will stop the bike by spinning the back wheel and applying the brake. If the bike has hand brakes check to see that the levers don't hit the handlebars when squeezed. Lift one tire up at a time and spin it; squeeze the levers to see if the tire stops. The brake pads should be clean, straight and contact the rims properly.

C is for Cranks, Chain, and Cogs:

Grab the crank arms and try to wiggle side to side. There should be no movement. Spin the pedals and cranks to see if the chain drives the rear wheel. The chain should look like metal not rust or black gunk. If the bike has gears check to make sure the gear levers and derailleurs (gear-changing mechanism) work to shift the chain between gears.

Quick Refers to Quick Releases:

Some bikes have quick releases on the wheels or the seat post. Check to make sure they are tight and closed properly.

Check Your bike!

After making sure the seat and handlebars are tight and the proper height, have the child ride the bicycle around the parking lot and check that everything works well.

Fitting Your Bike Helmet

Buy it. Fit it. Wear it. EVERY RIDE!

The Proper Helmet Fit

Helmets come in various sizes, just like hats. Size can vary between manufacturers. Follow the steps to fit a helmet properly. It may take time to ensure a proper helmet fit, but your life is worth it. It's usually easier to look in the mirror or have someone else adjust the straps. For the most comprehensive list of helmet sizes according to manufacturers, go the Bicycle Helmet Safety Institute (BHSI) Web site at: www.bhsi.org/.

STEP 1

Size:

Measure your head to find your size. Try on several helmets in your size until one feels right. Now put the helmet level on your head and adjust the sizing pads or fit ring until the helmet is snug.

STEP 2

Position:

The helmet should sit level on your head and low on your forehead—one or two finger-widths above your eyebrow.

STEP 3

Side Straps:

Adjust the slider on both straps to form a "V" shape under, and slightly in front of, the ears. Lock the slider if possible.

STEP 4

Buckles:

Center the left buckle under the chin. On most helmets, the straps can be pulled from the back of the helmet to lengthen or shorten the chin straps. This task is easier if you take the helmet off to make these adjustments.

STEP 5

Chin Strap:

Buckle your chin strap. Tighten the strap until it is snug, so that no more than one or two fingers fit under the strap.

STEP 6

Final Fitting:

A. Does your helmet fit right? Open your mouth wide…big yawn! The helmet should pull down on your head. If not, refer back to step 5 and tighten the chin strap.

B. Does your helmet rock back more than two fingers above the eyebrows? If so, unbuckle and shorten the front strap by moving the slider forward. Buckle and retighten the chin strap, and test again.

C. Does your helmet rock forward into your eyes? If so, unbuckle and tighten the back strap by moving the slider back toward the ear. Buckle and retighten the chin strap, and test again.

D. Roll the rubber band down to the buckle. All four straps must go through the rubber band and be close to the buckle to prevent the buckle from slipping.

Replace a Helmet.

Replace your helmet when it has been in a crash; damage is not always visible.

Buy/Fit the Helmet For Now.

Buy a helmet that fits your head now, not a helmet to "grow into."

Ensure Helmet Comfort.

If you buy a helmet that you find comfortable and attractive, you are more likely to wear it. Readjust as necessary to ensure the helmet fits properly each ride.

Cover Your Forehead.

Adjust the helmet fitting based on your helmet first being in the correct position, level on the head and low on your forehead.

Adjust Straps Until Snug.

Both the side and chin straps need to be snug.

Avoid Helmet Rocking.

Your helmet should not rock forward or backward, or side to side on your head.

If your helmet rocks more than an inch, go back to step 6, and readjust.

Be a "Roll" Model for Safe Behavior

Everyone — adult and child — should wear a bicycle helmet each time they ride. Wearing a helmet each ride can encourage the same smart behavior in others.

Helmet Certification

Bicycle helmets sold in the U.S. must meet the standards issued by the U.S. Consumer Product Safety Commission (CPSC). Look for the certification label inside the helmet.

Helmet Laws

More children ages 5-14 go to emergency rooms for bicycle-related injuries than with any other sport; many are head injuries. As a result, many States and local jurisdictions have child bicycle helmet laws to increase and better ensure the safety of children when bicycling. See: www.helmets.org/mandator.htm.

Like car crashes, bicycle crashes can happen at any time, involving not only children, but adults, many of whom are skilled riders. In fact, middle-age adults represent the average age of bicycle riders killed and injured.

Helmets are the single most effective piece of safety equipment for riders of all ages, if you crash. Everyone should choose to wear a helmet; it just makes sense!

For more information on bicycle safety, visit the National Highway Traffic Safety Administration Web site at:
www.nhtsa.dot.gov/bicycles

ROLL MODEL

NHTSA
www.nhtsa.gov

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Let's Go Biking!

Name_____

Child Assessment

"What Do You Know About Bicycling?" Pre-Test

TRUE or FALSE

1. I should ride my bike facing traffic so I can see what's coming. _____
2. All bicycle riders must stop at all stop signs and red lights just like car drivers do. _____
3. I have to stop my bike when I hear a siren coming from an ambulance, police car or fire truck. _____
4. I don't need lights on my bike to ride at night because I already have reflectors. _____
5. Bicycle riders can safely carry packages in one hand because they can steer with the other. _____
6. Bicycle riders must give hand signals before making turns. _____
7. On my bike I only have to look for cars straight ahead when crossing a road or riding out of a driveway. _____
8. It's OK for two people to ride on a bike if one sits on the seat, and the other sits on the handlebars. _____
9. I don't need to wear a bike helmet because I never ride my bike around cars. _____
10. It's okay to ride a bike that's a little too big for me now so that I can grow into it next year. _____
11. Cyclists don't have to worry about the color of the clothing they wear. _____
12. Bicyclists should always stop at the end of driveways to check for pedestrians and other vehicles before entering the street. _____

Instructor's Question and Answer Key

1. **False**.
   Riding facing traffic (against traffic) is dangerous for many reasons:
   - The bicycle rider will not see stop signs and other traffic signs.
   - Car drivers are not used to looking for any type of vehicle coming at them from the opposite direction.
   - The impact is much greater when a bike and a car hit each other head on.
   - Wrong way riding is dangerous and confusing to other bicyclists who are riding the right way.

   For these reasons it's illegal to ride against traffic. Ride on the right side of the road, with traffic.
2. **True.**
   When you ride your bike, the law says you must obey the traffic laws and rules just like car drivers and other vehicle operators.
3. **True.**
   Like car drivers, bicyclists must stop for emergency vehicles.
4. **False.**
   Reflectors alone are not enough for night riding. The law requires bicycle riders to use a headlight at night to see better and to be seen by others. Bicyclists should also use a bright red taillight in addition to rear reflectors, which are also required by law. Even with lights, night riding is dangerous and is not a good idea.
5. **False.**
   Bicycle riders should never carry anything in their hands. Instead, they should use backpacks or saddlebags. They need both hands for stability, for steering and for signaling turns.
6. **True.**
   Since bicycles are vehicles, riders are required to signal all turns just like car drivers. Through hand signals bicycle riders communicate with other pedestrians, bicyclists and other vehicles. This helps prevent crashes.
7. **False.**
   Bicyclists should check for cars not only straight ahead, but also approaching from either side or behind them.
8. **False.**
   The rule is one person per seat on a bicycle. Riding double changes the way the bicycle handles, puts weight where it doesn't belong, and makes it harder to steer and use the brakes. Very young children can be carried on a bicycle, hut only in a separate seat specifically designed for that purpose.
9. **False.**
   No other injury can be as serious as a head injury, which can cause death or permanent damage to your brain. No other injury is as easy to prevent. Helmets save lives and prevent injuries. Every bicycle rider needs the protection of a bicycle helmet on every ride.
10. **False.**
    All bicycle riders need bikes that fit them now. A bike that is too big is difficult to control and stop. Children need to be able to stand over the bar comfortably (if it's a diamond frame) and be able to touch at least one foot on the ground while sitting on the seat.
11. **False.**
    A cyclist's clothing is important in helping motorists to see him or her. Brightly colored clothing is recommended during daylight riding and highly reflective clothing is essential for riding in low light or at night.
12. **True.**
    Bicyclists should always yield right of way to pedestrians and other vehicles whenever they enter a street from a driveway.

Bicycling Basics

Time: *30-40 minutes*

Studies have demonstrated that skill-building activities are the most effective way to promote student retention of bicycling safety skills. Lesson objectives set the stage for building safety skills, which are emphasized through students' participation in class activities. This curriculum does not cover every possible scenario that a child may encounter as a bicyclist but instead addresses the basic skills needed to be a safe bicyclist. Teachers should use their discretion to break up material to accommodate their daily schedules. The Skill-Building Activity is an essential component to this curriculum, and all lessons should be complemented with the reinforcement of safe bicycling behavior. More time can be spent on practicing skills if children are already familiar with the core material.

Lesson Objectives

The objective of this lesson focuses on identifying risky behaviors and hazardous situations and learning how to avoid them. Children will learn how to signal their intentions and react to communications from pedestrians and other vehicle operators.

The children will be able to:

- Use proper hand signals,
- Identify and avoid risky behaviors,
- Identify and avoid hazards when riding, and
- Respond appropriately to others.

Why This Lesson is Important

Children need to learn where to bike and how to ride on the street safely, once they have their parent's or guardian's permission. Because bicycles are vehicles, children need to understand and obey all traffic laws, including signaling their intention. Learning to identify and avoid risky behaviors and road hazards will also help them bicycle safely.

Applicable Standards of Learning

Essential Standards

4.PCH.4.2: Identify personal protection equipment needed for sports or recreational activities. 4.MS.1: Apply competent motor skills and movement patterns needed to perform a variety of physical activities. 4.C.1.1: Use a variety of postures, gaits, and mannerisms to express character in the presentation of stories. 4.C.2.1: Use improvisation to tell stories and express ideas.	5:MS.1: Apply competent motor skills and movement patterns needed to perform a variety of physical activities. 5.C.1.1: Use a variety of postures, gaits, and mannerisms to express a variety of characters in the presentations of stories. 5.C.1.3: Construct original scripts using dialogue that communicates ideas and feelings. 5.C.2.1: Use improvisation to create characters and solve problems.

Common Core

CCSS.Math.Content.4.MD.C.5: Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement. CCSS.Math.Content.4.MD.C.6: Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure. CCSS.Math.Content.4.MD.C.7: Recognize angle measure as additive. […] Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems.	

Guidance

RED.C.2.1: Identify situations from your daily life in terms of problems and solution strategies.

EEE.SE.1.2: Illustrate personal responsibility in a variety of settings and situations.

P.SE.1.2: Use self determination to build independence.

I.SE.1.2: Integrate personal responsibility into the way you live your life on a daily basis.

Bicycling Basics

Materials

- Computer and projector to view *"Bicycling Basics"*
- *"Bicycling Basics"* video download
- Parts of the Bicycle Diagram
- Sample child sized bicycle(s) for Skill Building Activity
- Bicycle Inspection Form (Homework)
- Parent/Caregiver Tip Sheet
- Parent Notification Letter and Consent Form (Instructor's Guide, Appendix B)

Preparation

Review the ***Let's Go Biking!*** lesson video ***"Bicycling Basics"*** to understand how the video will supplement the classroom discussion and see a demonstration of how the skills taught in this set of lessons are performed by children in realistic settings. Reviewing this material will assist you in leading the Skill Building Activities in Lessons 3-5.

Set up AV equipment in advance and be prepared to ask children the questions indicated during the video pauses. Use the explanations in the lesson plans, as needed, to help children understand the key concepts.

Confirm that volunteers are ready to assist you with setting up and conducting on-bicycle course in Lessons 3-5.

Remind children to bring their Consent Form back to school before Lesson 3 begins.

Part 1 – Discussion and Demonstration

► **Time:** *25-35 minutes*

1. **Signal Your Intentions**
2. **Avoid Risky Behaviors**
3. **Stay Out of Trouble**
4. **Identify and Avoid Hazards**
5. **Safely React to Others**

Introduction

Today we'll learn how to signal to others on the road, how to avoid risky behaviors and how to identify and avoid potential road hazards. Before you ride your bike, always ask your parent or guardian for permission.

Show ***"Bicycling Basics"*** video that coordinates with Lesson 2. Pause where indicated by the video and discuss the points raised. The main points and explanations are given below.

Review the Rules of the Road from Lesson 1:

- Ride with traffic.
- Stop at driveways.
- Yield to pedestrians.
- Heed sirens.
- Obey traffic signs and signals.
- Remember that bicycles are vehicles.

1. Signal Your Intentions

When cars were first introduced, drivers were required to use their left arm to signal turns and stops. Bicyclists today are still required to use hand signals to communicate with other road users and prevent crashes.

- **Right Turn:** In North Carolina, to signal a right turn, put your left arm out with your forearm up at a 90-degree angle.
- **Left Turn:** Take a quick look back for traffic and put your left arm out straight. Moving to the left to avoid an obstacle or turning left both require a quick scan behind for traffic before changing position.
- **Slow or Stop:** Put your left arm out with your forearm down at a 90-degree angle.

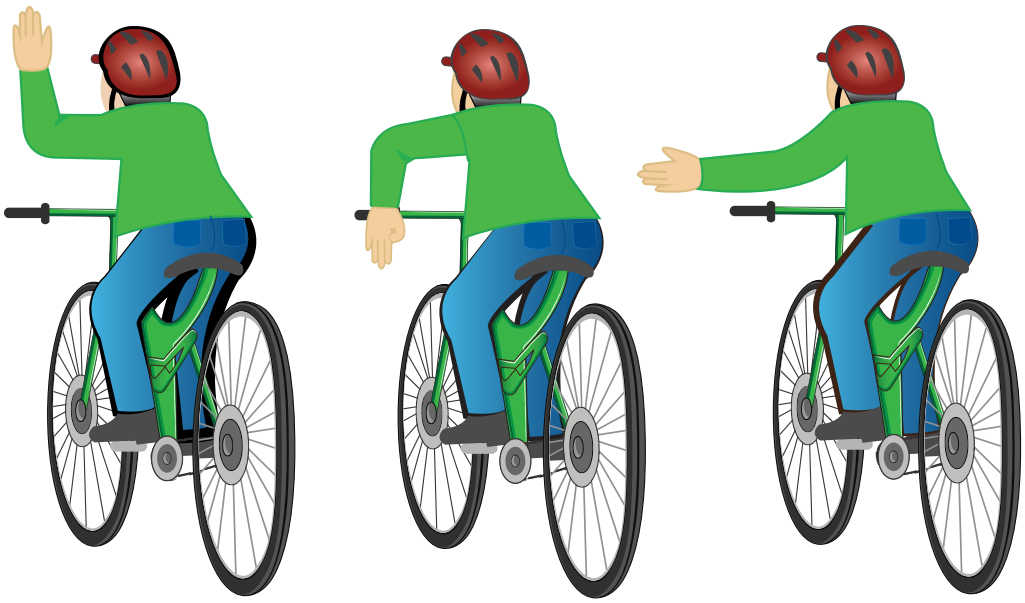
Discussion Opportunity

Hand Signals

Which hand signals should the bicyclists use?

Ask children to demonstrate the maneuvers indicated in the video using a hand signal with their left arm:

- Right Turn
- Move Left for obstacle
- Stop
- Left Turn



Right Turn **Slow or Stop** **Left Turn**

2. Avoid Risky Behaviors

Bicycling involves your full attention. You should take extra care to prepare each and every time you ride. There are many things that you can do to minimize problems that you will encounter by conducting yourself responsibly when you ride.

- **Put Items in a Backpack:** Carrying things in one hand or looped over the handlebars reduces the bicyclist's control of the bike and makes it difficult to use hand signals.
- **Don't Carry Other People**: Riding double changes the way a bicycle handles, puts weight where it doesn't belong, and makes it harder to steer and use the brakes.
- **Never Ride Against Traffic:** This puts bicyclists where motorists don't look for traffic and causes many turning and crossing collisions. It also makes it very difficult for the bicyclist to see and obey traffic signs and endangers other bicyclists riding with traffic.
- **Obey All Traffic Signs or Signals:** Ignoring traffic lights and stop signs leads to many car-bike crashes. Bicyclists should stop when the traffic light turns yellow as there isn't enough time to cross the intersection before the other traffic gets the green light to go.

Discussion Opportunity

Avoid Risky Behaviors

Talk about what can go wrong and what children can do to avoid risky behaviors during the pauses in the video:

- Where should you carry things?
- What should you do if you have two people and one bike?
- Where should you ride your bike on the road?
- What should you do at a traffic light or stop sign?
- What should you do if it gets dark?
- What should you do if it starts to rain?

- **Take Ear buds Out**: Listening to music while riding your bike is risky because you are unable to use the sense of hearing to help you detect a dangerous situation. Distractions will reduce your ability to make good decisions.
- **Call for a Ride Home:** Children shouldn't ride at night or in the rain. It can be dangerous even with head and taillights, especially because motorists may be sleepy or their vision may be reduced. Rain can also make the road slick and reduce the effectiveness of hand brakes. This makes it harder to turn and stop. In these situations, call for a ride home or walk your bike.

3. Stay Out of Trouble

*No matter what mode of transportation you take, there is always an element of unpredictability. A storm could wash tree branches into the roadway or a dog could run into the street. There's little control you have over these situations, but if you consistently **scan for dangers** as you bike, **plan your move** around the trouble spot and **do it** you can stay safe while you ride.*

These are the steps to "staying out of trouble":

1. Scan for Dangers
2. Plan Your Move
3. Do it!

Discussion Opportunity

Avoid Hazards
Stay Out of Trouble

Talk with children about what kind of hazards they might encounter while riding a bicycle.

Discuss with children how to react to the situations shown in the video using the step to Stay Out of Trouble:

- Tall bushes at the corner
- Broken glass in the road
- A loose dog on the side of the road
- Railroad crossing

Why is each step important?

1. Scan for Dangers
2. Plan Your Move
3. Do it!

4. Identify and Avoid Hazards

Visual Barriers

- **Bushes Block Motorist's View:** Plants and trees can block the view of the road. A motorist driving down the road may not see a bicyclist leaving the driveway and the bicyclist may not see the motorist.
- **Parked Cars:** These parked cars can also keep motorists and bicyclists from seeing each other, particularly if one of them is entering the roadway.

Problems in the Roadway

- **Hazards:** Potholes, fallen branches and broken glass can cause a fall, damage the bicycle's wheel or give you a flat.
- **Dogs:** Pets running loose can cause bicyclists to crash or swerve into the opposite lane in front of traffic.
- **Railroad Tracks:** Bicycle tires can get caught in the space between the road and the track, and the rider could be thrown from the bike. Briefly scan behind for traffic and then ride over the tracks at a 45 to 90 degree angle.

5. Safely React to Others

You may get cues from other vehicles lights, signals, or situation context that helps you decide what you should do. Pay attention for the following:

- **Left Turn Signal From Front of Vehicle with Lane Position Cues:** Left-turning motor vehicles may not see an oncoming bicyclist. Cars will generally position themselves in the lane to indicate which direction they are turning. Take notice of left turn signals or cars positioning themselves to make a left turn. You should make eye contact with the driver or stop to allow the driver to turn ahead of you.
- **Right Turn Signals from the Rear of a Vehicle:** A right-turning motorist may suddenly slow down and cross in front of a bicyclist to make the turn. Be on the lookout for right turn signals. Be ready to stop and allow the car to turn ahead of you.
- **Brake Lights:** Watching for these can help predict that the motorist is slowing down or stopping.
- **Back-Up Lights:** These white lights indicate a motorist is backing up and may not see the bicyclist.
- **Parked Car with Person Inside:** A vehicle door may be opened in the bicyclist's path, the motor vehicle may pull out into the street, or it may be about to back up.

Discussion Opportunity

Safely React to Others

Discuss the cues to look for from other vehicles and what they mean. What cues does a driver give for you to react to? How should you react?

- A vehicle in front of you is about to make a right turn
- A vehicle in front of you is about to make a left turn
- A vehicle that is approaching is about to make a left turn
- A vehicle is braking and slowing down
- A vehicle is backing up
- A person is sitting in a parked car

Part 2 – Activity

► **Time:** *10 minutes*

The Bike Equipment Activity will make it much easier for you and your volunteers to assist kids with getting ready at the beginning of each on-bicycle portion of the course in Lessons 3-5. Go through these examples to give kids a better understanding how to assess mechanical problems with their bicycles.

- Go over bicycle vocabulary using the **Parts of the Bicycle Diagram**.
- Point to a part on the bike and have kids respond with the appropriate term.
- Using the sample bike you have in the classroom, ask children to demonstrate various parts of the ABC Quick Check. You may wish to intentionally "adjust" the bike so there are three things wrong with it and challenge the children to find them.

Review (optional)

► **Time:** *5 minutes*

The instructor will review the lesson with these questions/actions:

- **Ask children to name the rules of the road.**
- **Have children demonstrate the hand signals for turning and stopping.**
- **Ask several children to each name a different hazard to watch out for.**
- **Quickly show a few signs and signals (railroad crossing, yield, flashing yellow light), and ask children what cyclists should do when they see this sign or signal.**

Homework

Using the **Bicycle Inspection Form** at the end of this lesson, evaluate your bike and helmet with a parent/caregiver. Assess whether it is safe to ride. Use the form to have them help you make adjustments to your bike so it is ready to ride.

These optional activities are included to extend the lesson into other areas of learning. Most activities presented may be completed within a 20-minute time period, or may be assigned as homework opportunities.

Arts Education

Create a skit about bicycle hazards. Divide the class into groups of 6-8 children. Each group is tasked with writing a skit about bicycle safety, and each person in the group must be a character in the story. In the story, a bicyclist or several bicyclists must react to hazards they encounter along the way to a destination. The skit should include dialogue between characters. Allow children to make simple props and use creativity to represent characters and actions in the story.

Below are some examples of hazards that could be included in the skit:

- Cyclist is riding past a driveway where cars may be entering or exiting.
- A cyclist is exiting a driveway where shrubs block the view of the driver on the street.
- A driver in a parked car opens the door as a cyclist is approaching on the same side.
- A cyclist is riding through a parking lot where a car's back-up tail lights show a car may be backing out of a parking spot.
- Three cyclists are riding in the street and see unleashed dogs that may not be friendly.
- A cyclist is approaching an intersection at the same time as a motorist talking on a cell phone.
- A cyclist is approaching an intersection going straight, and one car plans to turn right in front of the cyclist while a motorist coming from the other direction plans to turn left across the path of the cyclist.
- A pedestrian is crossing in front of a cyclist even though the red pedestrian signal says it is not safe to cross.
- A cyclist is wearing headphones and doesn't hear an ambulance approaching from behind.

Have each group present the skit to the class.

Mathematics

What role do circles play in your life? We could not make bicycles without circles. Show children a bicycle wheel. A circle is a very unique geometric shape. The circle allows the bicycle to roll smoothly on surfaces creating fewer bumps and less friction than an octagon with its sides and corners.

Measuring Circumference

Take a bicycle and draw a line with a sharpie on the front tire. Have a student roll a bicycle down the sidewalk a short, specific distance, using chalk lines or a marker (rock, tree, etc.) to show the student where to start and stop. Line up the line on the front tire with the line on the chalk for the starting point. Ask children to estimate how many times the wheel went around.

Measure the circumference around the wheel by wrapping a string around its perimeter. Hold the string tightly and have children cut the string exactly where the two ends meet. After measuring the string, have children report the circumference. Have children measure how far the bicycle wheel traveled.

With the measurement of the tire's circumference and the measurement of how far the bicycle wheel traveled, children can find out how many times the bicycle wheel went around. Have children set up the problem and find the answer.

Measuring Angles

Draw a simple bicycle wheel on the board, dividing the wheel with spokes. It is best not to use a real bicycle wheel but to simplify it using a diagram.

Angles are geometric shapes that are formed where two rays share a common endpoint.

Should the angle of the spokes in the wheel be more or less than 90°?

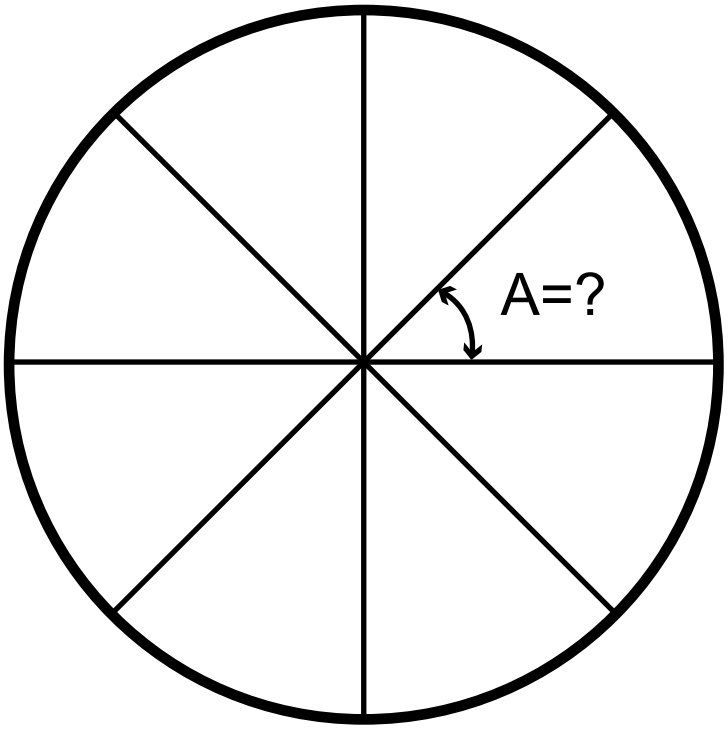
Have children measure the first ray of the angle. What is the measurement?

If all of the angles are equal size, what is the total number of degrees in the circle? (A)

Have children set up the problem and solve it. (A° x 8 = X)

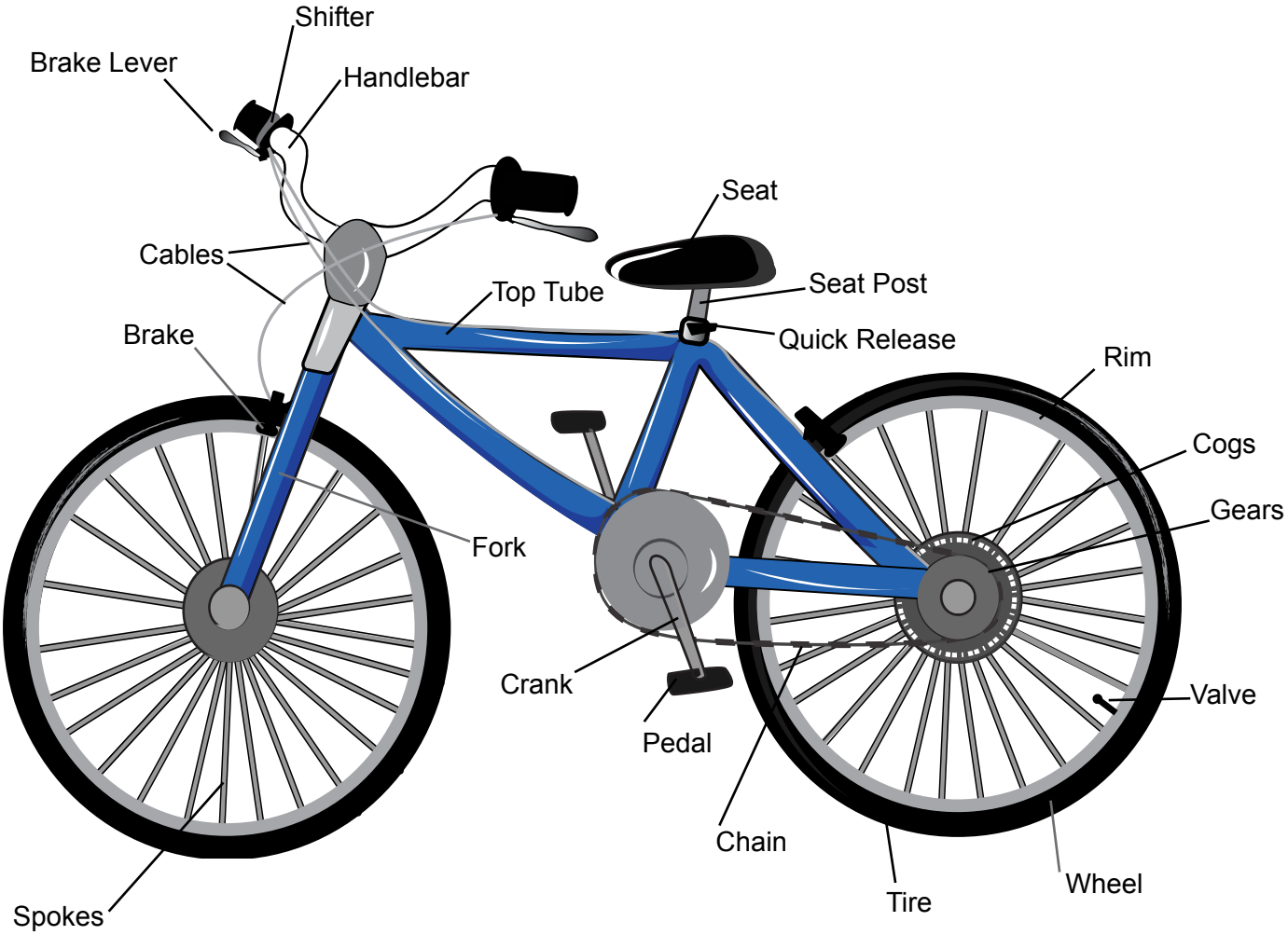
If the bicycle has 28 spokes, what is the measurement of each angle?

Have children set up the problem and solve it. (A° x 28 = 360)



Parts of the Bicycle Diagram

To make sure your bike is ready to ride, it's important to know the various components that make up a bicycle so you can check your bike to make sure it's safe before you ride.



Let's Go Biking!

Parent/Caregiver Tip Sheet

Cycling on Sidewalks or Separate Paths

The brain of a child less than 10 years old is not sufficiently developed to handle the bicycle AND make the decisions necessary to safely interact with traffic. It is recommended that they bicycle on sidewalks or paths when they ride. Understanding your child's development can help you to decide when they've mastered the skills to move from cycling on the sidewalk or paths to cycling in the roadway.

Development of Motor Skills - School-age children typically have fairly smooth and strong motor skills. However, they vary widely in coordination — especially eye-hand, endurance, balance and physical endurance. Practice cycling with your child to help them develop good coordination.

Cognitive Development - Since brain maturation is not complete until a child is older, the average 7-year-old may take twice as long as an adult to respond to a stimulus. Children are on average around 10 when they are able to combine the skills needed to handle the bicycle AND think about traffic and rules of the road. As children are developing these skills they need more supervision because they:

- Expect others to look out for them,
- Do not understand complicated traffic situations,
- Overestimate their knowledge and physical strength,
- Focus on one thought at a time,
- Assume that a driver can see them if they can see the car,
- Think cars can stop instantly.
- Have a field of vision that is one-third smaller than an adult's so they have minimal peripheral vision,
- Have difficulty determining from which direction sounds are coming,
- Have difficulty estimating the speed of a car, and
- Have difficulty recognizing dangerous situations.

Help your child bicycle safely by understanding these precautions:

- Check the law in your state or jurisdiction to make sure sidewalk riding is allowed.
- Watch for vehicles coming out of or turning into driveways.
- Stop at corners of sidewalks and streets to look for cars and to make sure the drivers see you before crossing.
- Enter a street at a corner and not between parked cars.
- Alert pedestrians that you are near by saying, "Excuse me," or, "Passing on your left," or use a bell or horn.

Bicycle Inspection Form

Child Name _____

Go over the parts of the bicycle. Use this form and the Parts of the Bicycle Diagram given to you in class today to inspect your bike with an adult. Circle any issues on your bicycle that need to be addressed before you ride!

Bike Size	Too Small	Too Big		
Seat	Too Low	Too High		
Handlebars	Crooked	Loose		
Wheels	*Front* Low Pressure Wobbles Spokes Missing Tires Worn Tire Bulge	*Rear* Low Pressure Wobbles Spokes Missing Tires Worn Tire Bulge		
Pedals	*Left* Missing Doesn't Spin Bent	*Right* Missing Doesn't Spin Bent		
Foot Brakes	Not Working	Chain Too Loose		
Hand Brakes	*Front Brakes* Worn Pads Hits Rim Hits Tire	*Rear Brakes* Worn Pads Hits Rim Hits Tire		
Cables	Housing Cracked	Missing Housing		
Gears	Don't Work	Broken Cables	Needs Adjustment	
Chain	Rusted	Gritty	Tight	Loose
Helmet	Purchase	Too Small	Too Big	Needs Adjustment

Inspection Notes: _____

_____

_____

Bike Control

Time: *30-45 minutes*

Studies have demonstrated that skill-building activities are the most effective way to promote student retention of bicycling safety skills. Lesson objectives set the stage for building safety skills, which are emphasized through students' participation in class activities. This curriculum does not cover every possible scenario that a child may encounter as a bicyclist but instead addresses the basic skills needed to be a safe bicyclist. Teachers should use their discretion to break up material to accommodate their daily schedules. The following Skill-Building Activities are an essential component of this curriculum, and all lessons should be complemented with the reinforcement of safe bicycling behavior. More time can be spent on practicing skills if children are already familiar with the core material.

Lesson Objectives

The objective of this lesson is teaching children to handle their bicycles safely and competently as they interact with other road users.

The children will be able to:

- Ride in a straight line without wobbling.
- Scan back over either shoulder at least twice in 50 feet, and identify a raised or lowered arm without swerving outside a two-foot wide lane.
- Scan ahead and behind while cooperating with other road users.
- Ride in a controlled and cooperative manner.

Why This Lesson is Important

It's important to teach young bicyclists how to handle their bikes with confidence and skill and to do so in a cooperative manner. This lesson introduces the concept of traffic communication. Telling others what we want to do and looking for a response is basic to sharing the roads safely. Young bicyclists need to learn this concept early.

Applicable Standards of Learning

Essential Standards

4.PCH.4.2: Identify personal protection equipment needed for sports or recreational activities. PE.4.MS.1.2: Create movement skill sequences commonly associated with various sports and activities. PE.4.PR.4.2: Use cooperation and communication skills to achieve common goals.	P.E.5.MS.1.2: Use increasingly complex skills with power and accuracy. PE.5.HF.3.2: Implement strategies to achieve health-related physical fitness. PE.5.PR.4.2: Use cooperation and communication skills to achieve common goals.

Common Core

CCSS.ELA-Literacy.W.4.7: Conduct short research projects that build knowledge through investigation of different aspects of a topic. CCSS.ELA-Literacy.SL.4.5: Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.	CCSS.ELA-Literacy.W.5.7: Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. CCSS.ELA-Literacy.SL.5.4: Include multimedia components and visual displays in presentations when appropriate to enhance the development of main ideas or themes. CCSS.Math.Content.5.MD.A.1: Convert among different-sized standard measurement units within a given measurement system, and use these conversions in solving multi-step, real world problems.

Guidance

RED.C.2.1: Identify situations from your daily life in terms of problems and solution strategies.

EEE.SE.1.2: Illustrate personal responsibility in a variety of settings and situations.

P.SE.1.2: Use self determination to build independence.

I.SE.1.2: Integrate personal responsibility into the way you live your life on a daily basis.

Materials

- Instructor bicycle
- One bike for each student
- Bicycle helmet for each student and instructor
- Extra helmet sizing pads of various thicknesses
- Surgical or painter's or cap for each student (wear under helmet to keep it clean)
- Small zip lock bag for each student, labeled with his/her name (to store caps between lessons)
- Bicycle tools: A variety of hex keys (also called Allen wrenches, typically metric) and adjustable crescent wrenches for seat and handlebar adjustments; pedal wrench to remove pedals.
- Bike pump(s)
- Bike Control Course Set Up Diagram
- Challenge Course Set Up Diagram
- 2 rolls of 2" masking tape
- 10' or 12' tape measure
- Whistle
- Props: 2-3 Hazards (Created with masking tape, rubber shower mats, or plastic discs to represent a hazard in the roadway without endangering the children)
- Parent/Caregiver Tip Sheet
- Child Assessment – Initial Skills Checklist (Class)

Preparation

Review the ***Let's Go Biking! Teaching The Skill Building Activities*** video which can be found in the *For Instructors* portion of the *Let's Go NC! Interface*.

Check general condition of helmets and bikes. Ensure enough time to fit helmets. This will go more quickly with knowledgeable volunteers assigned to this specific task.

With masking tape, lay out the ***Bike Control Course*** and ***Challenge Course*** according to the diagrams found in the materials section.

NOTE: The course should be set up so that there is sufficient space for children to circle around the course on their bikes to go through the course again. Use a relatively flat and smooth surface.

NOTE: It may be most efficient to set up all skills courses, including those found in Lessons 4 and 5, at the same time.

Review and prepare the ***Initial Skills Checklist.***

One assistant is needed for the **Scan over Shoulder** and **Challenge** activity. In addition, it's helpful to have volunteers on hand during class time to assist with preparing bicycles and helmets or conducting skill building activities. Fitting helmets can be time consuming. Coordinate with assistants in advance.

Optional Instruction Tool: You may choose to record the children performing skills using video. After the skills lesson, you can play the video and make suggestions on how children can improve their skill or technique.

Lesson 3 – Demonstration and Skill Building Activity

► **Time:** *30-45 minutes*

1. **Helmet Fitting**
2. **Bike Fitting**
3. **Ride in a Straight Line**
4. **Stop Quickly (Whistle Stop)**
5. **Use Hand Signals**
6. **Scan over Shoulder**
7. **Follow the Leader**
8. **Hazard Dodge**
9. **Challenge**

Introduction

To start this lesson, children will demonstrate basic bike control: straight line riding, turning, stopping, and starting. This practice will let you assess the basic abilities of each child and help you determine if they have enough control to move on to more advanced skills. If children have difficulty with these basic skills, have an assistant work with them individually. After basic skills, they can move onto signaling, scanning, riding with others, and dodging hazards.

Children with disabilities may have compromised balance and still be able to ride a 3-wheeled bicycle (trike). See the *Instructor's Guide* for more detailed information on working with children of all abilities.

Assess skills using the Student Assessment – ***Initial Skills Checklist for Grades 4-5 (Class)*** during the lesson.

1. **Helmet Fitting**

   Have children work in pairs to practice fitting helmets (their own helmet or helmets that are being provided as part of the course) and properly adjusting them in preparation for the on-bike lessons to follow. Assistants may be needed as most helmets will require some minor adjustment of the straps.

   - Use the straps and sizing pads to get it to fit just right. The helmet should sit level on the head and cover the top of the forehead, so that you can put 2 fingers between your eyebrows and the helmet.
   - Straps should be adjusted to fit snugly, but not tightly, forming a V under each ear. A helmet with loose straps can come off in a crash. With your helmet buckled, you should not be able to take it off, rock it from side to side or back and forth.
   - Use the ***Fitting Your Bike Helmet Guide*** at the end of Lesson 1 for more pointers.

2. **Bike Fitting**
   - Check to make sure the bike fits.
     - Diamond frame: stand over the frame with 1 to 3 inches of clearance.
     - Step-through frame: seat can be adjusted low enough to fit.
   - Adjust the seat height to assure a safe and comfortable ride.
     - Beginners: When you sit on the seat, you should be able to touch both feet on the ground.
     - Advanced riders: When you sit on the seat with your foot on the pedal in its lowest position, your leg should be slightly bent.

3. Ride in a Straight Line

It's important for cyclists to be predictable to others when they are riding. Riding in a straight line can help cyclists avoid other vehicles and be predictable. Get them started by having them practice straight line riding on the ***Bike Control Course***.

- Ask children why it is important to ride in a straight line in traffic (e.g. if you're swerving, other road users can't tell what you're going to do next).
- Explain that children will be riding on the right side of course, which represents a street. They should try to steer straight and stay within the lane.
- Have children ride as straight as they can. Instruct them to stay within the 1.5 foot lanes and not ride over them.
- Allow approximately two bike lengths between riders.
- Have all children go through the lane a few times, until they perform passably.

4. Whistle Stop

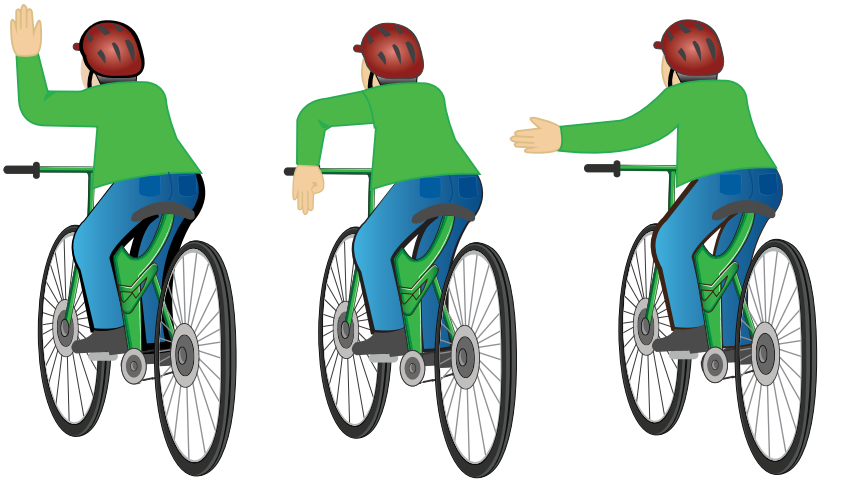
Explain the "whistle stop". This technique will be used at various intervals throughout the remainder of the lesson to control speed, regroup the class and to practice quick stops. Tell children they should stop as quickly and as safely as they can when they hear the whistle. Ask what could happen if they were riding fast in a group and stopped too quickly when they heard the whistle? (e.g. rear-end crashes, veering off course).

Give the following tips to the children so they can stop quickly and safely:

- *Allow at least one bike length between you and the person in front of you (the whistle could blow at any time).*
- *Brake smoothly without skidding or swerving when you hear the whistle.*

5. Practice Hand Signals

- Regroup class.
- Demonstrate hand signals for left, right, and stop/slow with your back to the class. When you use the left signal, scan to the rear for traffic when giving the signal.
- Ask each student to practice the left, right, and stop signals with their left hand while straddling their bikes and holding the handlebars with their right hand.



Right Turn **Slow or Stop** **Left Turn**

6. Scan over Shoulder

Explain that children need be able to ride in a straight line on the street while checking over their left shoulders for other vehicles, especially before changing position on the road or making a left turn. Have children ride the ***Bike Control Course*** to practice controlling the bike while scanning behind them. An assistant will stand to the left of the course behind the student with one arm either up or down as each child goes through the course.

- Have children ride the lane one at a time, with 3-4 bike lengths in between each student.
- As each student passes an assistant standing to the left of the lane, the student should look over the left shoulder to see the assistant. The student has to look back and call out, “Arm Up!” or “Arm Down!” while riding in a straight line.
- When the rider nears the end of the course he/she gives the slowing/stopping signal and stops at the end. Instruct children to give a left turn signal then turn left to circle back to the beginning.

7. Follow the Leader

Instruct children to practice the following skills, which teach them to ride cooperatively with others on the ***Bike Control Course***. Instruct them to be aware of what is happening around them and to keep a safe distance between each other.

- Line the children up at the start of right lane in groups of five.
- Instruct the first student to ride toward the end of the lane and signal either a right or left turn about 10 feet before the end.
- The other children should follow the leader by giving the same turn signal and making the turn. Send the first group off, and then prepare the next group.
- Repeat twice, with new leaders each time.

8. Hazard Dodge

In this exercise, children will react to simulated hazards on the ***Bike Control Course***. They will practice checking over their shoulders to make sure it is clear to change lanes. Place 2 or 3 “hazards” in the right lane of the course, spaced out so that children have time to move back into the right lane before encountering the second hazard. TIP: place the hazard so there is no room to pass it on the right.

- Ask children why bicyclists should avoid road surface hazards (e.g., you could fall; you could get a flat tire).
- Instruct children to should look back over their left shoulder before moving left to avoid the hazard. After passing the hazard, they should return to the right side of the lane.
- Have children to ride the course without hitting any hazards with their front wheels or swerving outside the lines, allowing five seconds between children.
- Allow each student to go through twice.

9. Challenge

Once children demonstrate mastery of the previous skills, they can try demonstrating proficiency in combining the previous skills on the ***Challenge Course*** layout, remembering to ride in a straight line while looking back or signaling.

- Each student will enter the Challenge Course, allowing 3 bike lengths in between each cyclist, look over left shoulder to see whether Instructor (or assistant) has an arm raised or lowered, calling out, “Arm Up!” or “Arm Down!”
- Each student then signals a right turn and turns right to follow the course.
- The student then signals a left turn and turns left to follow the course.

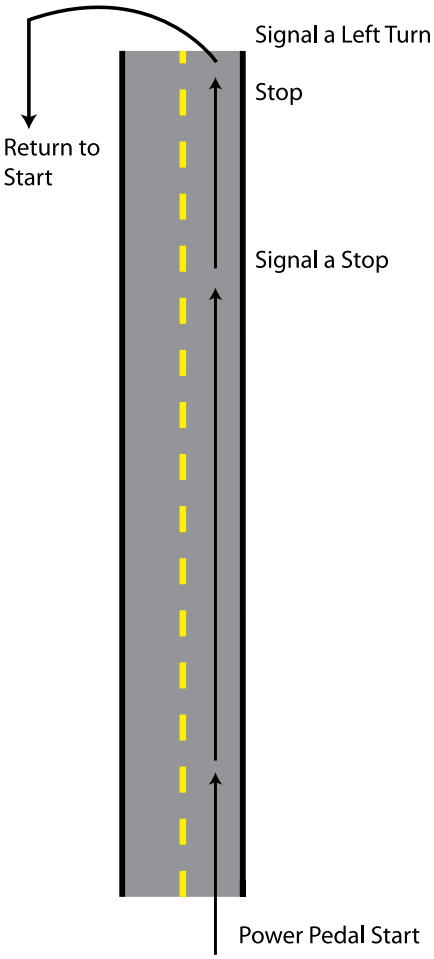
- At the end of the course, the student gives the slowing down or stopping signal and comes to a complete stop.
- Each student then circles back to the beginning of the course.
- Allow the children to continue riding the course as long as time permits.

Review (optional)

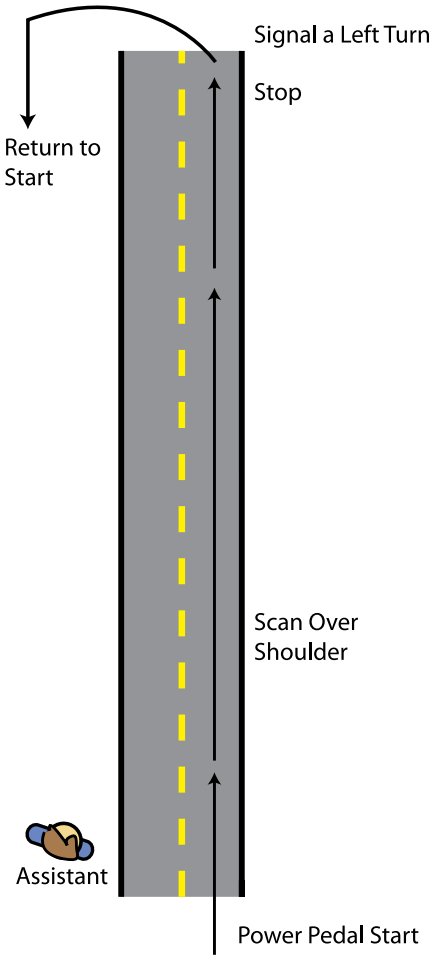
To reinforce safety concepts, the instructor should review these topics:

- How to scan behind for traffic before changing lanes or turning left,
- Hand signals by asking children to demonstrate,
- Why it's important to ride in a straight line,
- What hazards cyclists should be alert for, and
- What cyclists should do when they spot a hazard.

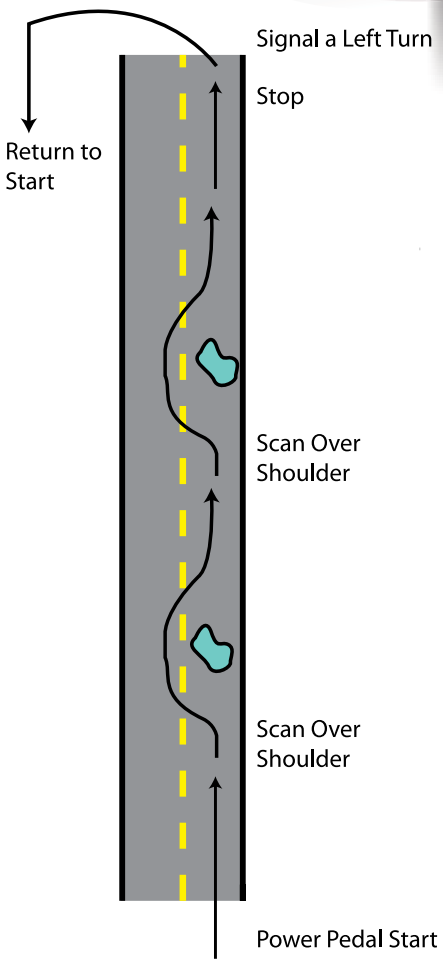
Bike Control Course Activities



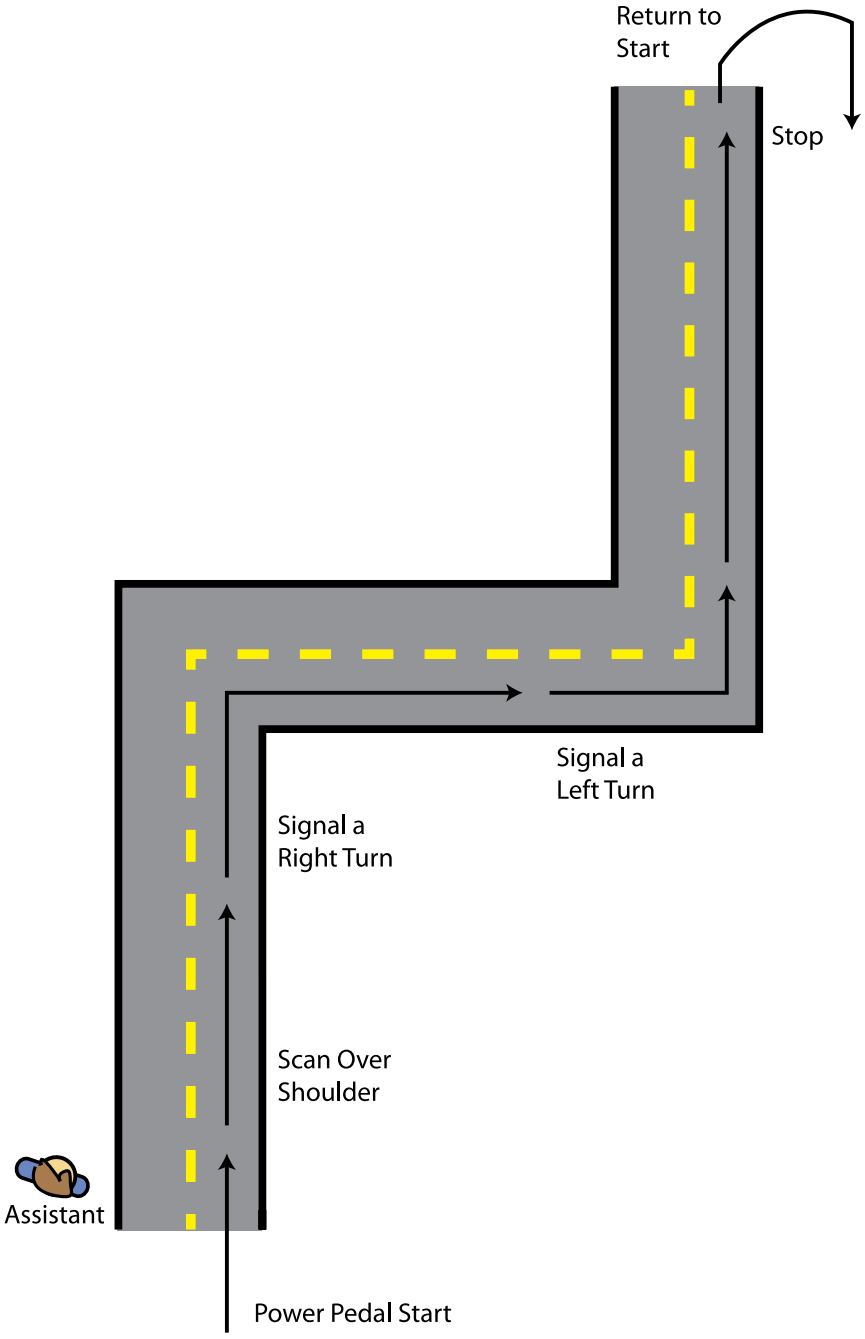
1. Signal Turns



2. Scan Over Shoulder



8. Hazard Dodge


Return to Start
Stop
Signal a Left Turn
Signal a Right Turn
Scan Over Shoulder
Assistant
Power Pedal Start

9. Challenge

These optional activities are included to extend the lesson into other areas of learning. Most activities presented may be completed within a 20-minute time period or may be assigned as homework opportunities.

English Language Arts

North Carolina is a popular place for bicycling. There are opportunities to ride all across the state enjoying many of the natural resources that North Carolina has to offer. Divide children into pairs and ask them to research a segment of bicycle tourism in North Carolina. Assign each pair of children a region of the state.

Examples from each region are given below but are not exhaustive:

- **Mountain Region** – Bicycling the Blue Ridge Parkway, Mountain Biking in the Pisgah National Forest, Bicycling in Henderson County.
- **Piedmont Region** – Bicycling Lake Norman, Bicycling in Rowan County, Bicycling on Charlotte Greenways, Bicycling in Alamance County.
- **Coastal Region** – Bicycling the Outer Banks, Rivers to the Sea Bikeway in Wilmington, Swansboro Bicentennial Bicycle Trail.

NCDOT has Regional and Local maps on their website which are a great starting point for information on routes. Some communities and regions have created Bicycle Plans which give a great amount of background information on bicycling in an area. Each student should create either a brochure or presentation that includes information and photos about bicycle tourism. The media that they choose to create should market the attraction to other children in the class.

Mathematics

With your class, calculate how long it would take someone to ride a bike across the state. A bicycle typically travels between 10-15 miles per hour. Athletes generally travel much faster, depending on their sport. For this exercise, use 12mph as the average speed that someone would use to travel by bicycle.

North Carolina has a Bicycle Route that traverses the entire state, from the mountains to the coast. NCDOT has maps of this route on their website. Approximately how many miles is it to travel from Murphy to Manteo on North Carolina Bicycle Route 2? ____ We will use this figure to represents the distance to travel across the entire state. [700 miles, from NCDOT website]

If a bicyclist were able to keep pedaling for 24 hours, how far could he or she travel in a day? Convert 12 mph to___ miles per day. (Hint: Use miles per 24 hours). Since this is unrealistic, how could we alter this figure? [288, Add in time to rest, eat, sleep]

If the bicyclist took 2 1-hour long rest periods and slept for 8 hours, how many miles could he or she travel in a day? ___ (Hint: Use miles per 14 hours). We will use this figure to represent how many miles per day an average person could travel on their trip across the state. [168 miles per day]

At this rate, how many days and hours will it take our bicyclist to ride from Murphy to Manteo? [4 days, 4 hours]

Is this realistic? Why or why not? [Answers could include more time needed for breaks, more time for sight-seeing, slower speed to pedal in mountains, factor in time to eat meals, etc.]

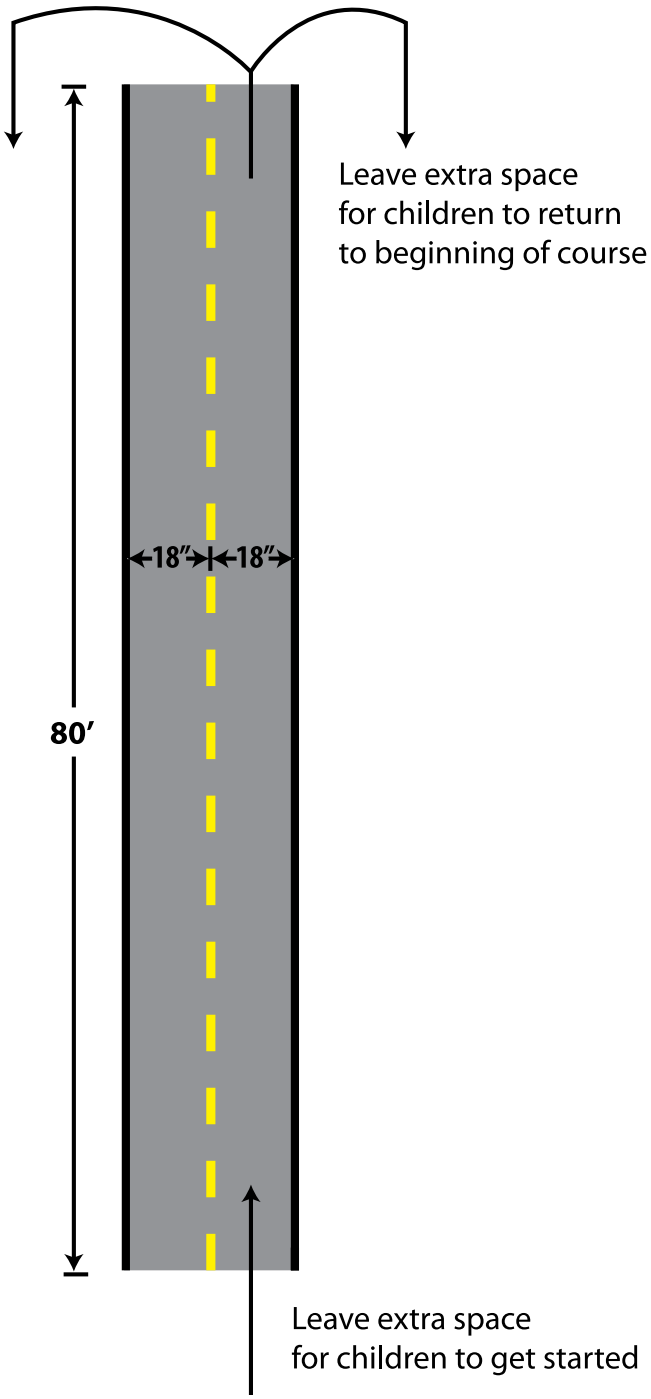
Optional

Add more word problems to develop children's understanding of time and distance in their own community, i.e., how long would it take to bicycle from the school to downtown?

Set Up Diagram

Bike Control Course

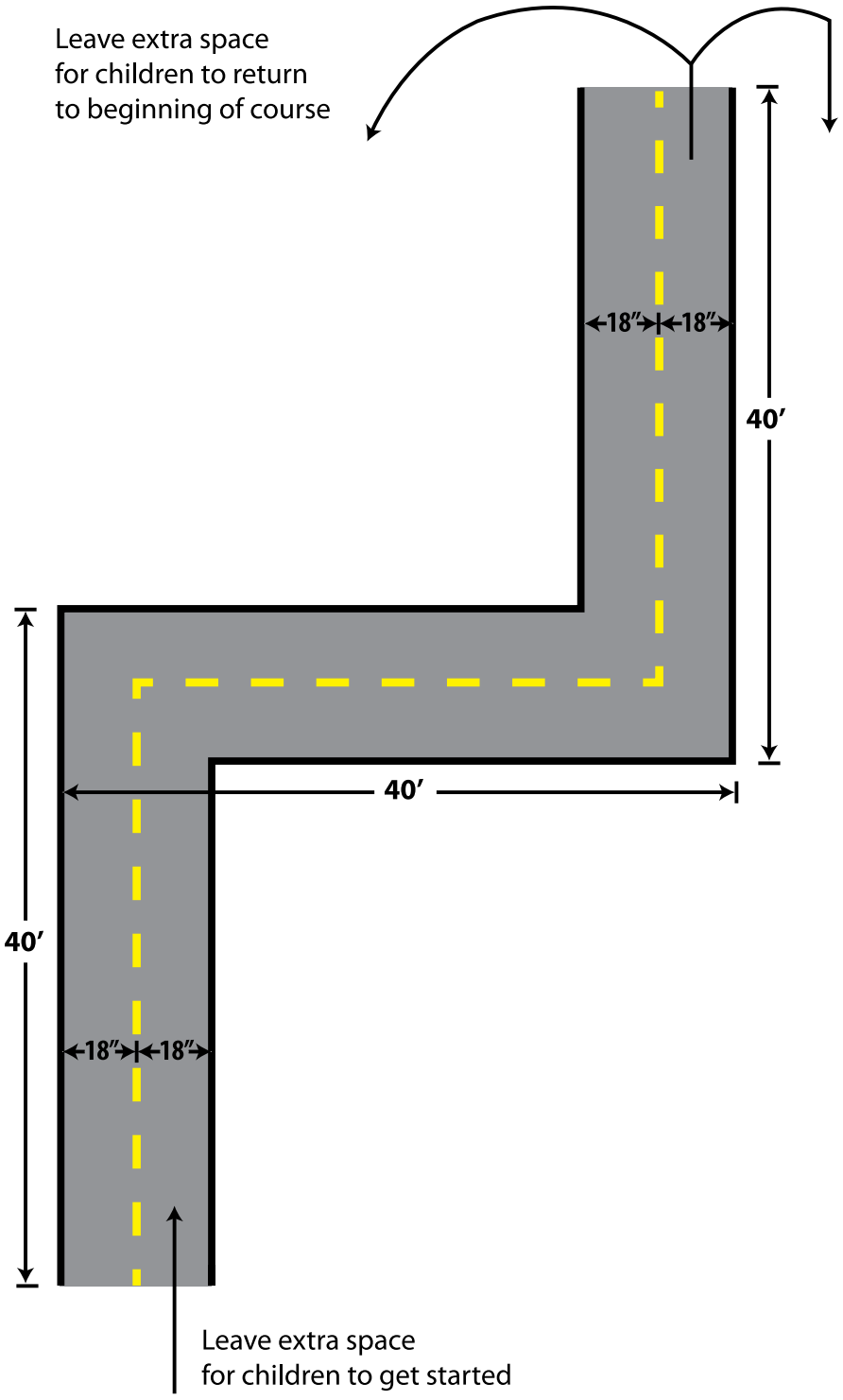
Use this diagram to set up your skills course for Lesson 3. If space and staffing permit, you can lay out a second course beside the first one so more children can participate at one time.



Set Up Diagram

Challenge Course

Use this diagram to set up your skills course for Lesson 3.



Class Child Assessment

Initial Skills Checklist

At the end of Lesson 3, children should be able to do the following skills successfully. Use the following scoring symbols to indicate their level of achievement:

Good +

Satisfactory ✓

Needs more work —

Child Name	Correctly fits helmet and wears properly	Uses the brakes to stop quickly and safely	Rides in a straight line using correct lane position	Scans behind without swerving	Controls bike while scanning, turning, and changing lanes	Identifies and safely avoids hazards	Uses correct signal when turning and signals before the turn

Let's Go Biking!

Parent/Caregiver Tip Sheet

Today your child practiced basic bike control: straight line riding, turning, stopping, and starting. If your child mastered these basic skills, he/she moved onto more advanced skills such as signaling to communicate with others, scanning behind, riding cooperatively with others, and moving safely around simulated hazards. It is important for your child to continue practicing these skills to become more proficient.

PRACTICE AT HOME!

You can help your child by setting up a skills practice area in an area away from traffic, such as a private driveway, public park, or vacant parking lot. Using chalk, tape or empty cans/plastic bottles, set up a lane that is 1.5 feet wide and about 30 feet long.

Be sure your child is wearing a properly fitted helmet for these exercises, even if they take place in your driveway or a park.

Have your child practice these bike control skills while staying within the lane:

- Ride in a straight line without wobbling or hitting the edge. Keep both hands on the handlebar.
- While riding in a straight line, signal a left turn with the left hand while controlling the bike with the right hand. When your child can do the signal without wobbling, have them scan behind their left shoulder before signaling, and have them turn left at the end of the course.
- While riding in a straight line, signal a right turn with the left hand while controlling the bike with the right hand. When your child can do the signal without wobbling, have them turn right at the end of the course.
- While riding in a straight line, signal to slow/stop the left hand while controlling the bike with the right hand. When your child can do the signal without wobbling, have them come to a complete stop after signaling at the end of the course.
- Stand to the left side of the lane so your child has to look back while continuing to ride in a straight line. You should either raise your arm, or have it by your side when the child looks back. The child has to tell you whether your arm was up or down. As the child develops this skill, you can make it more challenging by holding up a few fingers, and the child has to tell you how many fingers.
- Demonstrate how to stop quickly and safely. As the child is riding in the straight line, call out STOP. The child has to stop as quickly as possible without losing control of the bike. (Please note: if your child's bike has hand brakes, make sure the child understands to press both brakes equally so the bike does not flip.)

Let's Go Biking!

Cooperative Riding

Grades 4-5 Lesson 4 Cooperative Riding

Time: *30-45 minutes*

Studies have demonstrated that skill-building activities are the most effective way to promote student retention of bicycling safety skills. Lesson objectives set the stage for building safety skills, which are emphasized through students' participation in class activities. This curriculum does not cover every possible scenario that a child may encounter as a bicyclist but instead addresses the basic skills needed to be a safe bicyclist. Teachers should use their discretion to break up material to accommodate their daily schedules. The following Skill-Building Activities are an essential component to this curriculum, and all lessons should be complemented with the reinforcement of safe bicycling behavior. More time can be spent on practicing skills if children are already familiar with the core material.

Lesson Objectives

This lesson further develops a child's ability to interact with others using the street by using simulated driveways on a roadway. By practicing cooperative interactions while maneuvering and controlling the bicycle in a safe and controlled environment, they can become more proficient in skills that are necessary for when they are ready to bicycle safely with traffic.

The children will be able to:

- Identify correct direction of travel.
- Enter and exit a roadway safely.
- Make left and right turns after using appropriate hand signals.
- Safely cross the path of pedestrians, bicyclists and other vehicles.
- Identify high-risk situations in a simulated traffic environment and respond appropriately without creating conflict with pedestrians, bicyclists and other vehicles.
- Predict the movement of pedestrians, bicyclists and other vehicles.
- Ride predictably by using hand signals and "reading" communication from others, such as hand signals, eye contact, and yielding.

Why This Lesson is Important

Many conflicts, collisions and crashes involve failure to communicate effectively and use the road cooperatively. Bicyclists can reduce this risk by developing handling skills, a practical understanding of the traffic environment, and the mutual rights and responsibilities of pedestrians, bicyclists and other vehicles.

Applicable Standards of Learning

Essential Standards

4.PCH.4.2: Identify personal protection equipment needed for sports or recreational activities. PE.4.MS.1.2: Create movement skill sequences commonly associated with various sports and activities. PE.4.PR.4.2: Use cooperation and communication skills to achieve common goals. 4.P.3.2: Recognize that light travels in a straight line until it strikes an object or travels from one medium to another, and that light can be reflected, refracted, and absorbed.	P.E.5.MS.1.2: Use increasingly complex skills with power and accuracy. PE.5.HF.3.2: Implement strategies to achieve health-related physical fitness. PE.5.PR.4.2: Use cooperation and communication skills to achieve common goals. 5.NPA.3.2: Explain the benefits of regular physical activity on physical, mental, emotional, and social health.

Common Core

CCSS.ELA-Literacy.W.4.7: Conduct short research projects that build knowledge through investigation of different aspects of a topic. CCSS.ELA-Literacy.SL.4.4: Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. CCSS.ELA-Literacy.SL.4.5: Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.	CCSS.ELA-Literacy.W.5.7: Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. CCSS.ELA-Literacy.SL.5.4: Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. CCSS.ELA-Literacy.SL.5.5: Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.

Guidance

RED.C.2.1: Identify situations from your daily life in terms of problems and solution strategies.

EEE.SE.1.2: Illustrate personal responsibility in a variety of settings and situations.

P.SE.1.2: Use self determination to build independence.

I.SE.1.2: Integrate personal responsibility into the way you live your life on a daily basis.

Materials

- Instructor bicycle
- One bicycle for each child
- Bicycle helmet for each child and instructor
- Extra helmet sizing pads of various thicknesses
- Surgical or painter's cap for each child (wear under helmet to keep it clean)
- Bicycle tools (2 sets): assortment of crescent and open-end wrenches for seat and handlebar adjustments, regular and Phillips screwdrivers, Allen wrenches
- Bike pump(s)
- Whistle
- Driveways Course Diagram
- 4 rolls of 2" masking tape
- 10' or 12' tape measure
- Props: Free-standing stop sign, 1 Hazard (Created with masking tape, rubber shower mats, or plastic discs to represent a hazard in the roadway without endangering the children), Section of bushes (optional - Represents a visual barrier in the roadway that children must negotiate to see around.)
- Parent/Caregiver Tip Sheet
- Child Assessment – Intermediate Skills Checklist for Grades 4-5 (Class)
- Child Assessment – Intermediate Skills Checklist for Grades 4-5 (Individual)

Preparation

Check general condition of helmets and bikes.

Create the props listed above (This could be done as part of an art class or as a special after-school activity well in advance of this lesson.)

With masking tape, lay out the ***Driveways Course*** according to the diagram found in the materials section.

NOTE: The course should be set up so that there is sufficient space for children to circle around the course on their bikes to go through the course again. Use a relatively flat and smooth surface.

NOTE: It may be most efficient to set up all skills courses, including those found in Lessons 3 and 5, at the same time.

Review and prepare the ***Intermediate Skills Checklist for Grades 4-5***. The checklist should be sent home after the Skill-Building Activity along with the Parent/Guardian Tip sheets included in this lesson. Copy the individual checklist onto the back of the Parent/Caregiver Tip Sheet.

Additional volunteers may be helpful to have on hand during class time to assist with fitting helmets, preparing bicycles, and conducting the on-bike skill building activities. Coordinate with assistants in advance.

Lesson 4 – Demonstration and Skill Building Activity

► **Time:** *30-45 minutes*

1. **Bike and Helmet Check**
2. **Review Communication and Cooperation Skills**
3. **Entering and Exiting Driveways using Right Turns**
4. **Entering and Exiting Driveways using Left Turns**
5. **Riding the Loop and Signaling Turns**

Introduction

To start this lesson, children will demonstrate basic bike control: straight line riding, turning, stopping, and starting. This practice will let you assess each child's basic abilities and help you determine if they have enough control to move on to more advanced skills. If children have difficulty with these basic skills, have an assistant work with them individually. After basic skills, they can move onto signaling, scanning, riding with others, and dodging hazards.

Assess skills using the ***Child Assessment – Intermediate Skills Checklist for Grades 4-5 (Class)*** during the lesson.

1. **Bike and Helmet Check**

   Have children fit their helmets and check their bikes before starting the activity.

   - Ask each child to do a quick check of his or her bike, including fit.
   - Have children check helmets for proper placement and fit.

2. **Review Communication and Cooperation Skills**

   - Review communication and cooperation between pedestrians, bicyclists and other vehicles, including hand signals, eye contact, and yielding.
   - Review scanning ahead and behind techniques.
   - Ask what you should do and how you should react when you see a hazard on the road.
   - Remind children that bicycles are vehicles so they should ride on the right side of the lane with the flow of traffic.

3. **Entering and Exiting Driveways using Right Turns**

   Ask children to pretend that the driveways on the ***Driveways Course*** could be to their house or apartment. Even though driveways don't have stop signs, cyclists should always stop at the end of the driveway to check for vehicles and pedestrians before entering a street. They will ride the course making right turns into and out of driveways. The fence and bushes props can be added near the driveways, so children have to adjust their positions due to visual barriers to see oncoming traffic.

   - Demonstrate how to turn right out of a driveway to enter the roadway. Then, riding the loop, demonstrate how to make a right turn into the driveway. Ask children to note your hand signals and speed in executing the turn and turning within the driveway. Emphasize the need to stop and look for traffic at the end of the driveway before entering the street, especially when there are visual obstructions such as bushes and fences at the end of the driveway.
   - Divide children into 2 groups with one group positioned at each driveway.

- Ask children to stop at the edge of the street and driveway to check for approaching vehicles, then signal a RIGHT turn. All children will ride around the loop one time then signal and turn RIGHT into their starting driveway.
- Have children exit their respective driveway when there is an appropriate gap in traffic.
- If time permits, have children turn around in the driveway and re-enter the roadway with a right turn to complete another loop, after checking for vehicles and pedestrians.
- Praise, review and remediate as necessary.

4. Entering and Exiting Driveways using Left Turns

Using the ***Driveways Course*** again, stop children and explain how one must yield to oncoming traffic when making a left turn. This time they will ride the course using left turns into and out of driveways.

- Stop children and demonstrate how to make a LEFT turn out of a driveway to enter the roadway. Then, riding the loop, demonstrate how to make a LEFT turn into the driveway. As you approach the driveway to make the left turn, scan behind for traffic. If there is enough of a gap between you and the other traffic, signal a LEFT turn, scan behind again to check that it is still safe to go and then move to the left side of the lane. Scan ahead for oncoming traffic. If there is enough of a gap between you and the other traffic, signal your turn again, then execute the turn.
- Ask children to stop at the edge of the street and driveway to check for approaching vehicles, then signal a LEFT turn. All children will make a left turn out of the driveway, ride around the loop one time then signal and turn LEFT into their original driveway.
- Have children exit their respective driveway when there is an appropriate gap in traffic.
- If time permits, have children turn around in the driveway and re-enter the roadway with a left turn to complete another loop, after checking for vehicles and pedestrians.
- Praise, review and remediate as necessary.

Rider's Choice Opportunity

- With children in groups positioned at each driveway, have them enter the street, after checking for pedestrians and vehicles, turning left or right as they choose.

5. Riding the Loop and Signaling Turns

Introduce a stop sign and a hazard into the main loop of the ***Driveways Course*** as children are riding. Remind children that if they must move left to go around a hazard, they should scan behind their shoulder for traffic. Tell children to signal a slow/stop before coming to a complete stop at the stop sign.

- Instruct children to ride the loop as they scan and react to traffic signs and hazards.
- Have children vary left and right turns into and out of the driveway.
- Periodically change the location of the hazard.

Challenge Opportunity: Tape a set of railroad tracks at an angle across one portion of the roadway. Remind children to always cross railroad tracks at a 90-degree angle (to avoid catching their wheels or sliding on the rails) or walk their bikes across the tracks.

Review (optional)

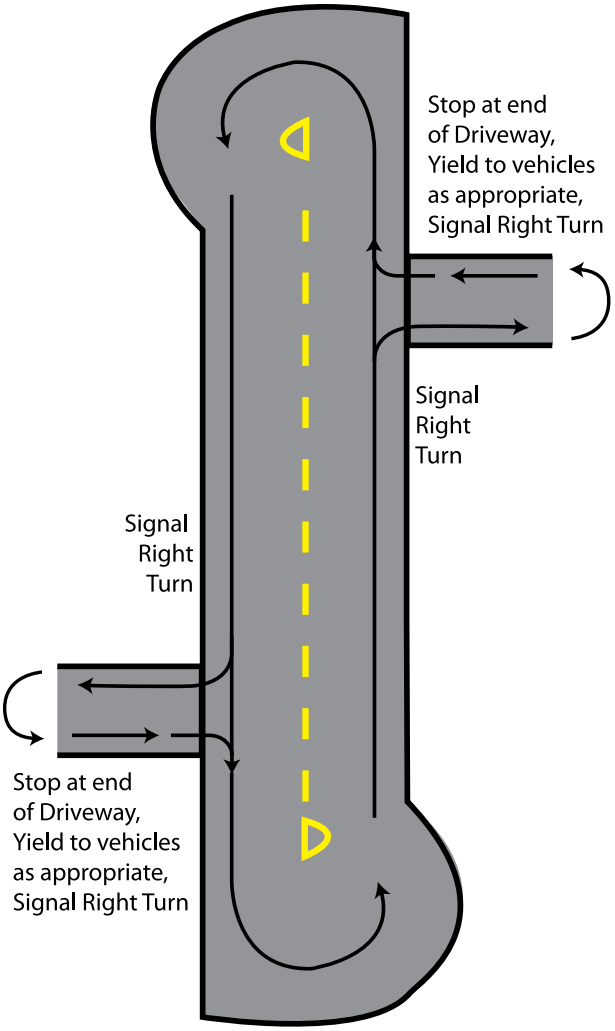
To reinforce safety concepts, the instructor should review these topics by posing questions related to each skill:

- **Riding on the right** — Where on the street should cyclists ride? Which side is the wrong side to ride on?

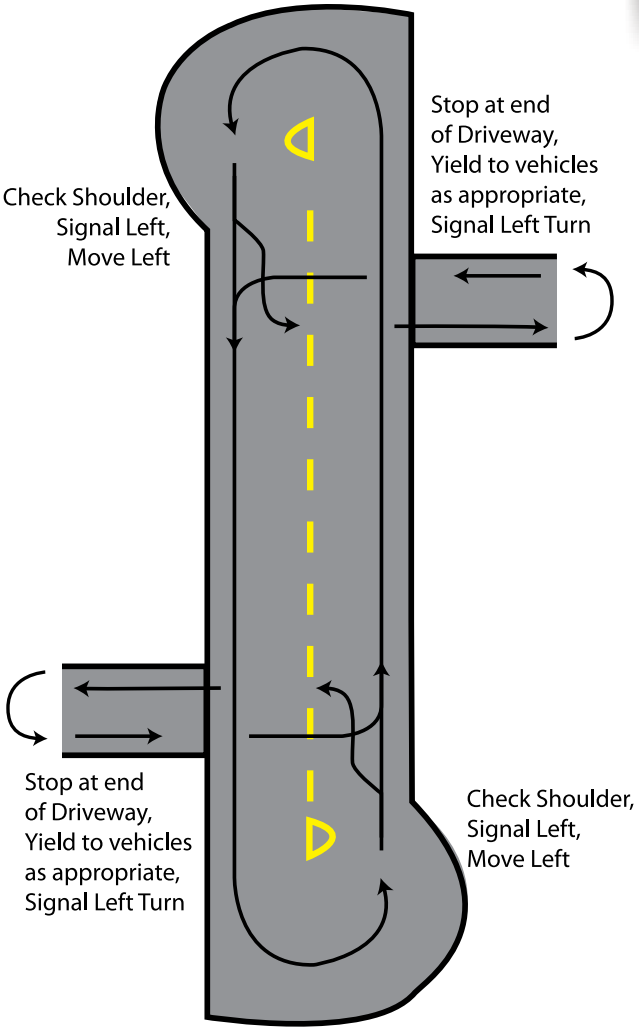
- **Communicating with others** — How should cyclists communicate with pedestrians? How should cyclists communicate with other vehicle operators?
- **Hazard identification and response** — What are two hazards cyclists should be alert for? What's the best way to avoid a hazard?
- **Right and left turns** — What signals should cyclists give for turns? What hazards should cyclists be alert for when turning right? What hazards should cyclists be alert for when turning left?
- **Entering and exiting the roadway with right and left turns** — What should cyclists be alert for when entering the street from a driveway? What should cyclists be alert for when exiting the street into a driveway?

At the end of the Lesson 4, transfer skills assessments to ***Child Assessment – Intermediate Skills Checklist for Grades 4-5 (Individual)*** for children to take home and have signed by a parent/guardian.

Driveways Course Activities



3. Entering and Exiting Driveways using Right Turns



4. Entering and Exiting Driveways using Left Turns

These optional activities are included to extend the lesson into other areas of learning. Most activities presented may be completed within a 20-minute time period, or may be assigned as homework opportunities.

Social Studies

Have children research the historical role of the bicycle in transportation, from a state or national perspective depending on grade-level. Research can be done individually or in teams, using interviews with older family members, library resources, and the Internet.

Although not exhaustive, here are several examples of topics that relate to history and bicycling that children can choose from:

- Bicycles and Women's Suffrage,
- Bicycles during War,
- U.S. Bicycle Route System,
- Good Roads Movement,
- Bicycle-Friendly Cities,
- NC Bicycle Route System, and
- Decline of bicycling in the United States.

English Language Arts / Healthful Living

Children can work in small groups (2-3 children each) to develop a two-to-three minute Public Service Announcement (PSA) to promote bicycling. Children may be allowed to use technology, if available.

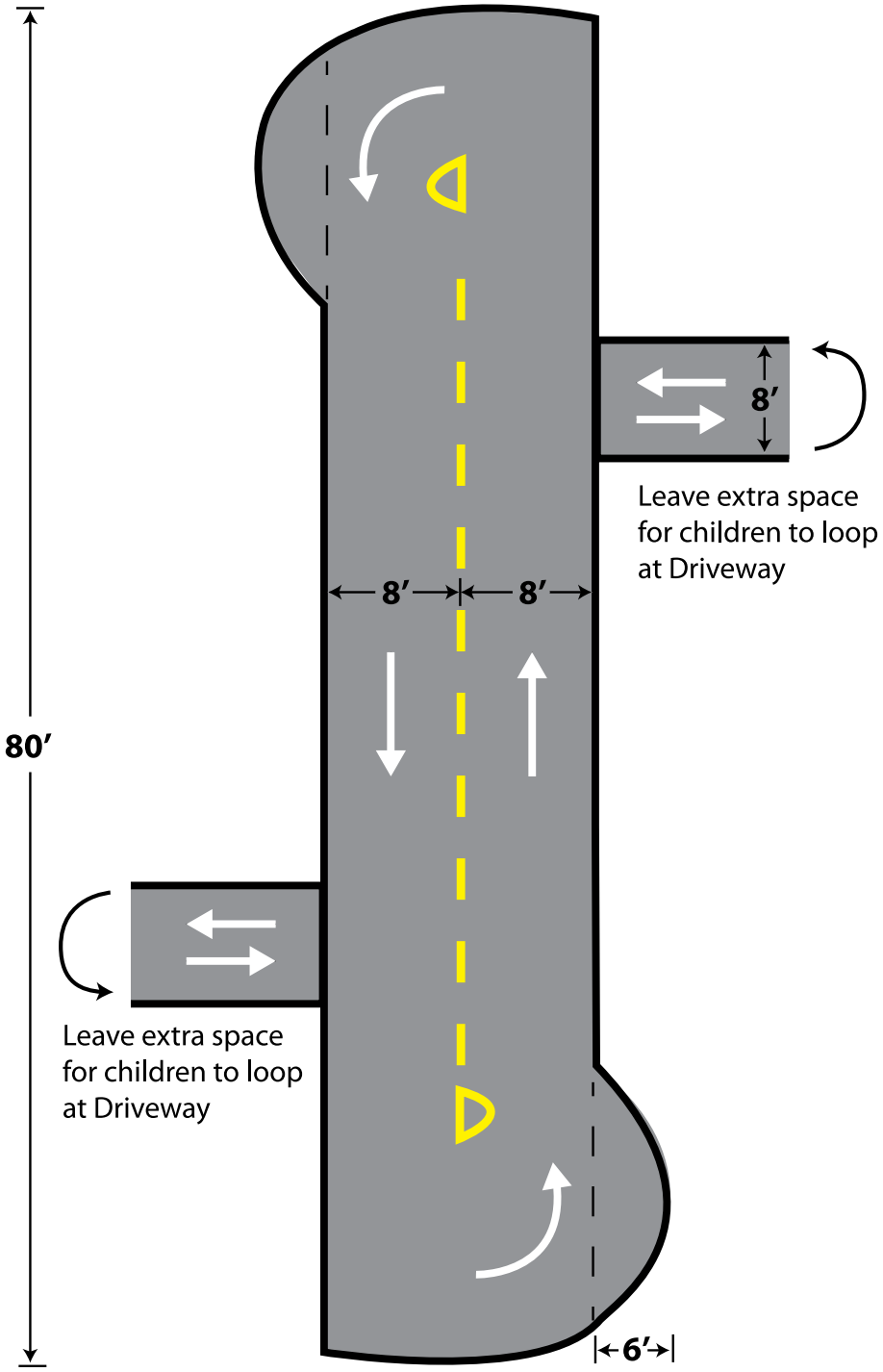
Children should explain how having a lifestyle that includes bicycling benefits their health, including ways that it can help to relieve stress.

PSA's can be recorded and broadcast on the school's morning announcements or presented to children in younger grades. ***Video submissions of PSA performances to the NC Safe Routes to School Program are encouraged!***

Set Up Diagram

Driveways Course

Use this diagram to set up your skills course for Lesson 4.



Let's Go Biking!

Parent/Caregiver Tip Sheet

Dear Parent or Guardian:

Today your child participated in a bicycle skills training course and learned to do the following skills:

- Identify correct direction of travel on a roadway.
- Enter and exit a driveway safely.
- Make left and right turns after using appropriate signals.
- Predict movement of and safely interact with other bicyclists.
- Identify high-risk situations in a simulated traffic environment and respond appropriately without conflict with other bicyclists.
- Communicate with other bicyclists in a simulated traffic environment by using cooperation techniques such as eye contact and hand signals.
- Ride predictably in a straight line using hand signals and “reading” communication from others, such as hand signals, eye contact, and yielding.

The checklist (enclosed or on back of the letter) indicates which skills your child performed well and which skills need additional practice. Please discuss these skills with your child and then sign and date the checklist so the child can return it to the teacher.

PRACTICE AT HOME!

You can help your child continue to develop these skills in a safe area near your home. Ask your child to demonstrate each of the skills listed above. Encourage your child to continue practicing the weaker skills to become proficient. The better your child does on the following skills, the more ready he/she will be to learn more advanced skills for riding a bicycle.

Better yet, ride together as a family so you can model appropriate cycling behavior for your child.

Happy cycling!

Class Child Assessment

Intermediate Skills Checklist for Grades 4-5

At the end of Lesson 4, children should be able to do the following successfully. Use the following scoring symbols to indicate their level of achievement:

Good +

Satisfactory ✓

Needs more work –

Child Name	Rides in a straight line in the correct lane position	Stops and scans for traffic before entering roadway	Follows others at an appropriate distance	Yields to others as appropriate	Scans behind before turning or merging left	Uses appropriate nonverbal communication	Scans and reacts appropriately to hazards

Let's Go Biking!

Name_____

Child Assessment

Intermediate Skills Checklist for Grades 4-5

Parent/Guardian: Please sign this report below and have your child return it to the instructor.

During the Basics of Bicycling course, your child worked on the bicycle skills shown below to help prepare him or her to bicycle safely in traffic. The following scoring symbols indicate your child's level of achievement:

Good +

Satisfactory ✓

Needs more work –

Please encourage your child to continue working on these skills to master them.

Rides in a straight line in the correct lane position	Stops and scans for traffic before entering roadway	Follows others at an appropriate distance	Yields to others as appropriate	Scans behind before turning or merging left	Uses appropriate nonverbal communication	Scans and reacts appropriately to hazards

Comments:

_____

Signature of parent/guardian

_____

Date

M4-5 B4

Basic Traffic Skills

Time: 30-45 minutes

Studies have demonstrated that skill-building activities are the most effective way to promote student retention of bicycling safety skills. Lesson objectives set the stage for building safety skills, which are emphasized through students' participation in class activities. This curriculum does not cover every possible scenario that a child may encounter as a bicyclist but instead addresses the basic skills needed to be a safe bicyclist. Teachers should use their discretion to break up material to accommodate their daily schedules. The following Skill-Building Activities are an essential component to this curriculum, and all lessons should be complemented with the reinforcement of safe bicycling behavior. More time can be spent on practicing skills if children are already familiar with the core material.

Lesson Objectives

The objective of this lesson is the further development and refinement of bike handling skills and cooperative interaction with other vehicles and pedestrians in preparation for riding in traffic.

The children will be able to:

- Ride cooperatively with pedestrians, bicyclists and other vehicles.
- Negotiate more challenging traffic situations which demand more advanced interaction between pedestrians, bicyclists and other vehicles.
- Recognize and respond appropriately to traffic signs.
- Recognize and respond appropriate to the red and green phases of a traffic signal.

Why This Lesson is Important

A practical understanding of the traffic environment is crucial. Many conflicts, collisions and crashes involve a failure to communicate effectively and ride cooperatively, so that all pedestrians, bicyclists and other vehicles can mutually predict each other's behavior.

Applicable Standards of Learning

Essential Standards

4.PCH.4.2: Identify personal protection equipment needed for sports or recreational activities. PE.4.MS.1.2: Create movement skill sequences commonly associated with various sports and activities. PE.4.PR.4.2: Use cooperation and communication skills to achieve common goals.	P.E.5.MS.1.2: Use increasingly complex skills with power and accuracy. PE.5.HF.3.2: Implement strategies to achieve health-related physical fitness. PE.5.PR.4.2: Use cooperation and communication skills to achieve common goals. 5.NPA.3.2: Explain the benefits of regular physical activity on physical, mental, emotional, and social health.

Common Core

CCSS.ELA-Literacy.SL.4.1: Engage effectively in a range of collaborative discussions with diverse partners on topics and texts, building on others' ideas and expressing their own clearly.	CCSS.ELA-Literacy.SL.5.1: Engage effectively in a range of collaborative discussions with diverse partners on topics and texts, building on others' ideas and expressing their own clearly. CCSS.Math.Content.5.G.A.1: Use a pair of perpendicular number lines, called axes, to define a coordinate system, with […]

Guidance

RED.C.2.1: Identify situations from your daily life in terms of problems and solution strategies.
EEE.SE.1.2: Illustrate personal responsibility in a variety of settings and situations.
P.SE.1.2: Use self determination to build independence.
I.SE.1.2: Integrate personal responsibility into the way you live your life on a daily basis.

Materials

- Instructor's bicycle
- One bicycle for each child
- Bicycle helmet for each child and instructor
- Extra helmet sizing pads of various thicknesses
- Surgical or painter's cap for each child (wear under helmet to keep it clean)
- Small zip lock bag for each child, labeled with his/her name (to store caps between lessons)
- Bicycle tools (2 sets): assortment of crescent and open-end wrenches for seat and handlebar adjustments, straight and Phillips-head screwdrivers, Allen wrenches
- Bike pump(s)
- Whistle
- Intersection Course Set Up Diagram
- 2 rolls of 2" masking tape
- 10' to 12' tape measure
- Props: 4 free-standing Stop signs, traffic signal (to be operated by a volunteer), section of bushes (optional - represents a visual barrier in the roadway that children must negotiate to see around)
- Parent/Caregiver Tip Sheet
- Child Assessment – Final Skills Checklist for Grades 4-5 (Class)
- Child Assessment – Final Skills Checklist for Grades 4-5 (Individual)
- Pencils
- Clipboards for assessments (optional)
- Child Assessment – Worksheet (Post-Test)
- Child Assessment – Answer Key

Preparation

Check general condition of helmets and bikes.

Create the traffic signal prop. See the **Instructor's Guide** for tips.

With masking tape, lay out the course according to ***Intersection Course*** diagram found in the materials section.

NOTE: It may be most efficient to set up all skills courses, including those found in Lessons 3 and 4, at the same time.

Review and prepare the ***Final Skills Checklist for Grades 4-5***. The checklist should be sent home after the Skill-Building Activity along with the Parent/Guardian Tip sheets included in this lesson. Copy the individual checklist onto the back of the Parent/Caregiver Tip Sheet.

An assistant is needed for the Traffic Signal activity. In addition, have people on hand during class time to assist with preparing bicycles and helmets or conducting skill building activities. Coordinate with assistants in advance.

Lesson 5 – Demonstration and Skill-Building Activity

► **Time:** *30-45 minutes*

1. **Bike and Helmet Check**
2. **Review Traffic Principles**
3. **Two-Way Stop on a Through Street**
4. **Four-Way Stop**
5. **Traffic Signal**
6. **Post-Test**

Introduction

This lesson introduces fundamental traffic concepts. The course layout and instruction teaches children how to negotiate a two-way stop controlled intersection, a four-way stop controlled intersection, and then a traffic signal. Finally, after being introduced to stop controlled and traffic light controlled intersections, pedestrians are introduced at a crosswalk, so bicyclists must demonstrate appropriate yielding behavior. Children should gain an understanding from both the bicyclist and pedestrian point of view. The fence and bushes props can be added near the intersection, so children have to adjust their positions due to visual barriers to see oncoming traffic.

Assess skills using the ***Child Assessment – Final Skills Checklist for Grades 4-5 (Class)*** during the lesson.

1. **Bike and Helmet Check**

   Have children fit their helmets and check their bikes before starting the activity.

   - Ask each child to do a quick check of his or her bike, including fit.
   - Have children check helmets for proper placement and fit.

2. **Review Traffic Principles**

   Go over the following before children enter the course:

   - Yield to pedestrians.
   - Obey traffic signs and signals. A stop sign and traffic signal will be used in this course. Come to a complete stop at a stop sign or traffic signal. ook both ways, and proceed when it is clear or when the light has turned green.
   - Bicycles are vehicles, so you ride on the right side of the road with traffic.
   - Signal the direction you want to go before turning. Scan ahead and behind before turning.
   - Check over your left shoulder before making a left turn to make sure no other vehicles are coming.

3. **Two-Way Stop on a Through Street**

   This activity focuses on stopping at stop signs, signaling right turns, and looking for vehicles before crossing through the intersection in the ***Intersection Course***.

   - Divide class in half forming two groups. Position one group at the #1 Group Start and the second group at the #2 Group Start.

- Group #1 will ride one at a time through the intersection, stopping at the stop sign, yielding to any bicyclists on the through street before they proceed through the intersection. Ensure that children stop behind the stop sign, looking both ways for traffic before proceeding. When they get through the intersection, they will signal and turn right, then signal and turn right again to ride the through street.
- Concurrently, Group #2 will ride one at a time through the intersection, slowing and looking both ways as they approach the cross street. Even though approaching vehicles are supposed to stop, they may not. After the group crosses through the intersection, they signal and turn right then signal and turn right again to ride through the stop controlled street.
- Have children continue to ride the pattern until the instructor blows the whistle.

Add Pedestrians

- Using the intersection, introduce pedestrians crossing the intersection crosswalk. Ask a group of four children to become pedestrians. Emphasize that the pedestrians need to look both ways — even though they have the right of way — to be sure that vehicles are stopping. Instruct the pedestrians to cross in the crosswalks from various directions creating a situation where the bicyclists must yield.

If time permits, have the groups switch starting locations and perform the same activity with everyone signaling and making left turns at the end of the first street followed by another signal and left turn at the next street.

4. Four-Way Stop

This activity adds complexity because children have to identify who has the right of way before crossing through the intersection in the ***Intersection Course*** layout.

- Regroup the children with a whistle stop. Add 2 Stop signs on the through street to create a 4-way stop.
- Introduce the 4-way stop, and the concept of “right of way.” Ask for suggestions as to how to determine who goes first (i.e. first come/first served; vehicle on right goes first).
    a. Vehicles leave the stop sign in the same order in which they arrived. (The first vehicle to arrive at a complete stop is the first vehicle allowed to leave the stop sign.)
    b. If there is more than one vehicle arriving at the same time at the 4-way stop, the vehicle on the right is allowed to leave first.
- Position one group at the #1 Group Start and the other group at the #2 Group Start. Have the groups ride through the intersection one person at a time, stopping at the stop signs and determining “right of way” as they arrive. At the end of the street, allow children to signal either a right or left turn, ride to the next street, signal and turn right or left onto that street.
- Have riders continue this pattern until the instructor blows the whistle.

5. Traffic Signal

For this activity, riders will have to interpret a traffic signal and obey the phases. They will stop at the red phase and start/proceed straight through the intersection during the green phase in the ***Intersection Course*** layout.

- Remove the stop signs and add a traffic signal in the center of the intersection, operated by an assistant.
- Position one group at the #1 Group Start and the other group at the #2 Group Start. Have the assistant stand and position the traffic signal facing the approaching bicyclists. One group will have a red light to start; the other will have a green.

- Review meaning of red, green and yellow lights. Even though only red and green lights are used in this course, review the meaning of a yellow light for bicyclists (e.g. the traffic light is about to change, and there is not enough time for bicyclists to cross the intersection, so they should stop). Instruct children that they should ride carefully past the assistant.
- Have children ride through the intersection. Children should ride up to the intersection, obey the traffic signal, and then ride through the intersection when they are given a green light. At the end of the street, allow children to signal either a right or left turn, ride to the next street, signal and turn right or left turn onto that street.
- Have riders continue this pattern until the instructor blows the whistle.

Add Pedestrians

- Using the intersection, introduce pedestrians crossing the intersection crosswalk. Ask a new group of four children to become pedestrians, crossing only on a green light. Emphasize that the pedestrians need to look both ways — even though they have the right of way when crossing at a green light — to be sure that vehicles are stopping. Create a situation where the pedestrians cross in the crosswalks to create a situation where the bicyclists must yield.

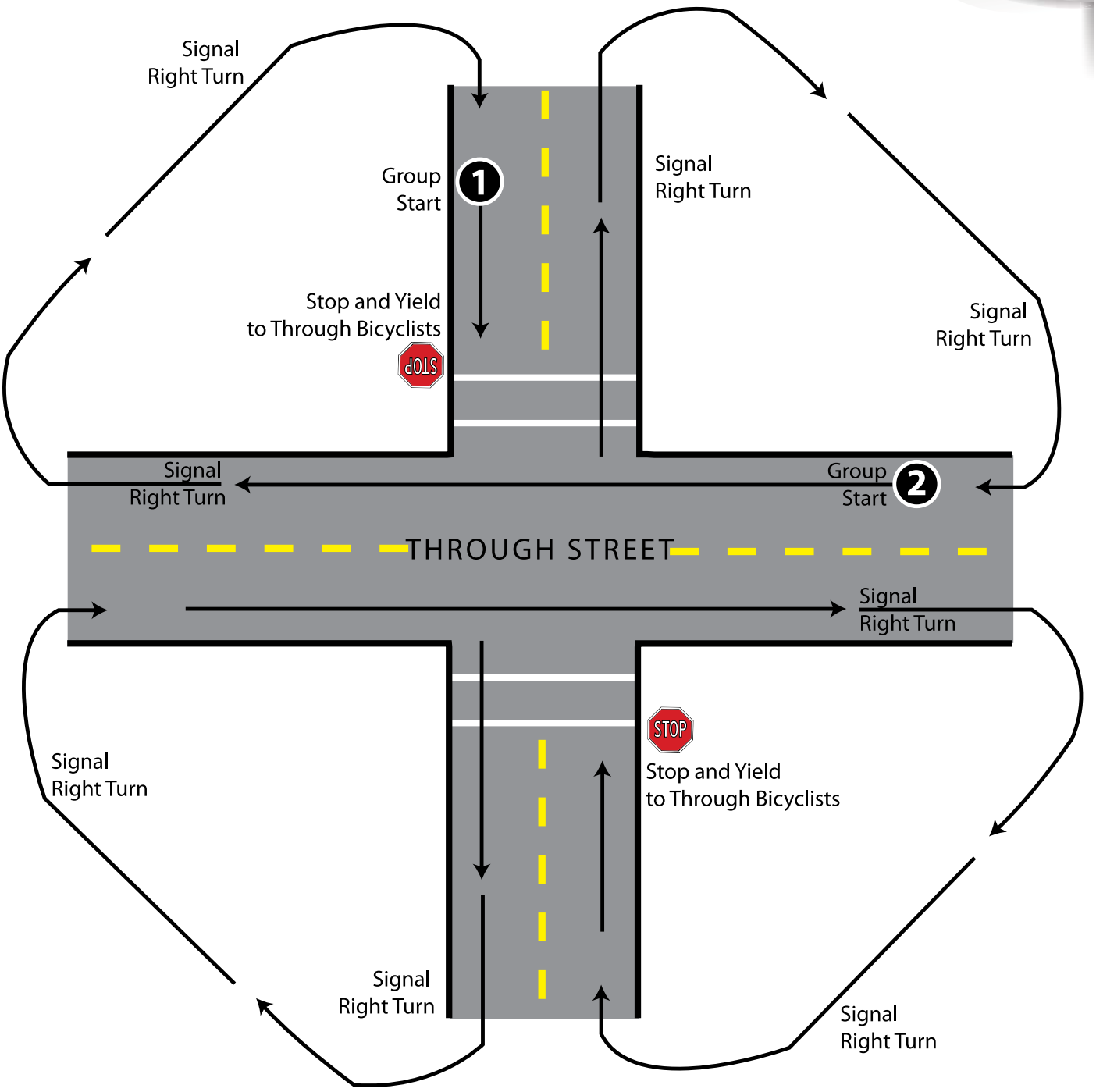
6. **Post-Test**

   [Distribute the Child Assessment – "What Do You Know About Bicycling?" Post-Test. Allow children a few minutes to complete, and collect completed assessments.]

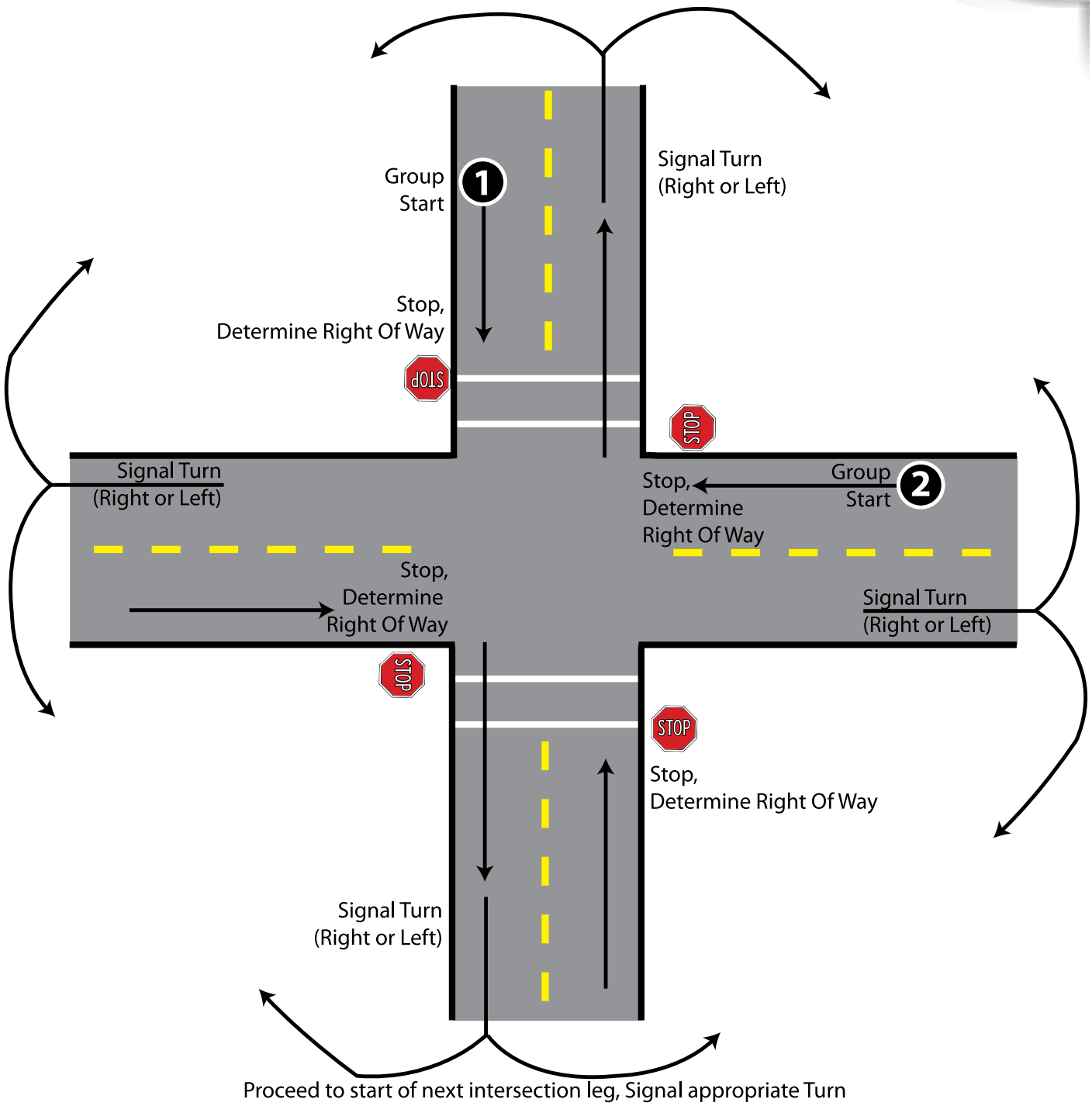
Review (optional)

► **Time:** *5 minutes*

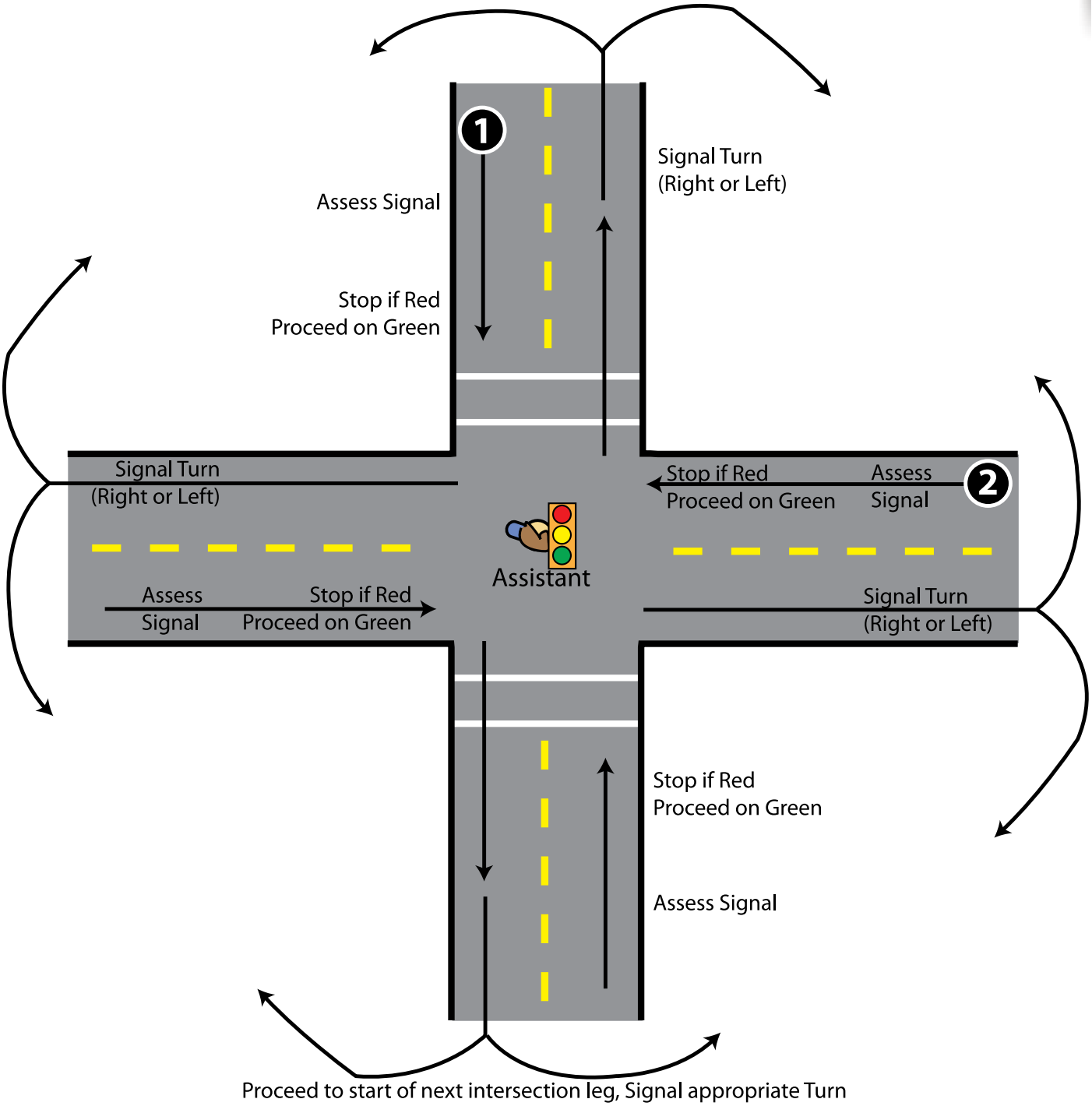
Review the answers to the Post Test after children have corrected their tests. Discuss any items that children failed to answer correctly. Children should take worksheets home to discuss with their parent/caregiver along with the ***Child Assessment – Final Skills Checklist for Grades 4-5 (Individual)***.



3. Two Way Stop on a Through Street



4. Four Way Stop



5. Traffic Signal

These optional activities are included to extend the lesson into other areas of learning. Most activities presented may be completed within a 20-minute time period or may be assigned as homework opportunities.

Healthful Living

The child will identify visual limitations of pedestrian, bicyclists and other vehicle drivers.

Discussion Opportunity

Motorists, pedestrians and bicyclists have visual limitations. There are areas to each side and behind, which cannot be seen when a person is looking straight ahead. That is why a person should constantly scan for danger. A person in traffic has to be aware of many different factors at one time. When a person is distracted, it can lead to crashes.

Activity 1: Traffic Circles

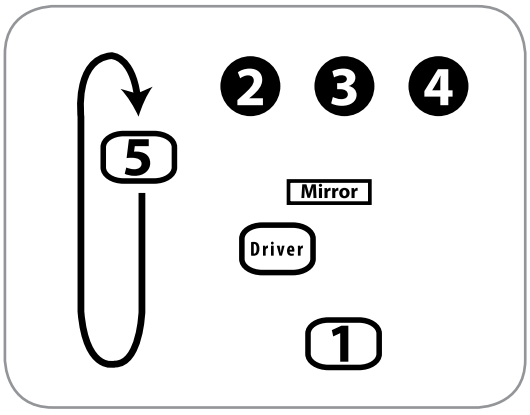
To illustrate the visual and coordination problems of bicyclists and motorists in a traffic environment, divide the class into two groups. Form two circles, one with the other. The outer circle moves clockwise while the inner circle moves counterclockwise. First, use 4 volleyballs or balls about the same size. Second, do the activity with 4 tennis balls. Give 2 balls to the inner circle and 2 balls to the outer circle. The balls will be passed in two ways:

- When the instructor calls “pass back”, children will pass the ball over the head to the person moving behind them in the same circle.
- When the instructor calls “pass over,” children will toss the balls to the person opposite in the other circle.

Discuss the game after playing. Liken the situation to a traffic environment. The larger balls are easier to see and catch while the smaller balls are more difficult. The larger balls correspond to cars and trucks, the smaller balls to pedestrians and bicyclists. To make this game more difficult, darken the room while playing. Introduce day-glow tennis balls. Are they easier to see and catch?

Activity 2: Distraction

To give children some idea of the driving task and develop scanning technique, children will take turns in the driver’s “hot seat” in this activity. The child driver must identify the different factors involved in the driving task within the allotted time period or risk a “crash.” A “rearview mirror” should be placed or held by the driver at the correct height. (Contact local car dealers or junk car dealers for a mirror donation or use a small handheld mirror.)



Five children, representing the different factors, will take the positions indicated in the diagram:

Number 1 — This child, representing a car behind the driver, will try to sneak up and touch the driver without being seen.
Number 2 — The child in this position will hold up a red sign periodically representing a crisis factor, and the driver must say “emergency” within 3 seconds.
Number 3 — The child in this position will hold up squares of green, yellow, red, representing factors from a traffic signal which the driver must identify.

Number 4 — This child is a bicyclist, who will give hand signals occasionally. The "driver" must call out saying "bicyclist left" or "bicyclist right" within 5 seconds.
Number 5 — This child, representing another vehicle, will walk a small loop in the classroom. The driver must say "now" when the child comes toward and passes the driver.

Every few minutes, have the children rotate to a new position, so each experiences a new role. Children not directly participating can be involved as timekeepers or observers.

At the end of the activity, discuss with child "drivers" the challenges they experienced. Ask them to watch their parents drive, and help their parents look for these distractions.

Mathematics

Discuss stopping distance with your class. Vehicles can't just stop — they are big and heavy. The faster a car is going, the more time and distance it needs to stop, and the less time there is to react. Discuss the two components of stopping distance:

- **Reaction Time:** How far you will continue to travel before you can physically hit the brakes in response to an obstacle seen ahead.
- **Braking Distance:** How far you will travel while you are applying the brakes.

Have them calculate the last column (Total Stopping Distance) by adding the Reaction Time and Braking Distance together.

Speed (mph)	Reaction Time Distance (ft.)	Braking Distance (ft.)	Total Stopping Distance (ft.)
20	22	20	42
30	33	40	73
40	44	72	116
50	55	118	173
60	66	182	248

Have children measure the distance on the playground in feet (ft.) required for stopping a car traveling at various speeds — in miles per hour (mph).

Work as a class to graph the Speed and Stopping distance using a coordinate plane. Put "Speed" on the X-Axis and "Stopping Distance" on the Y-Axis.

Have children collaborate in small groups to answer: What can increase stopping distance? [Hint: Think about each component of stopping distance.]

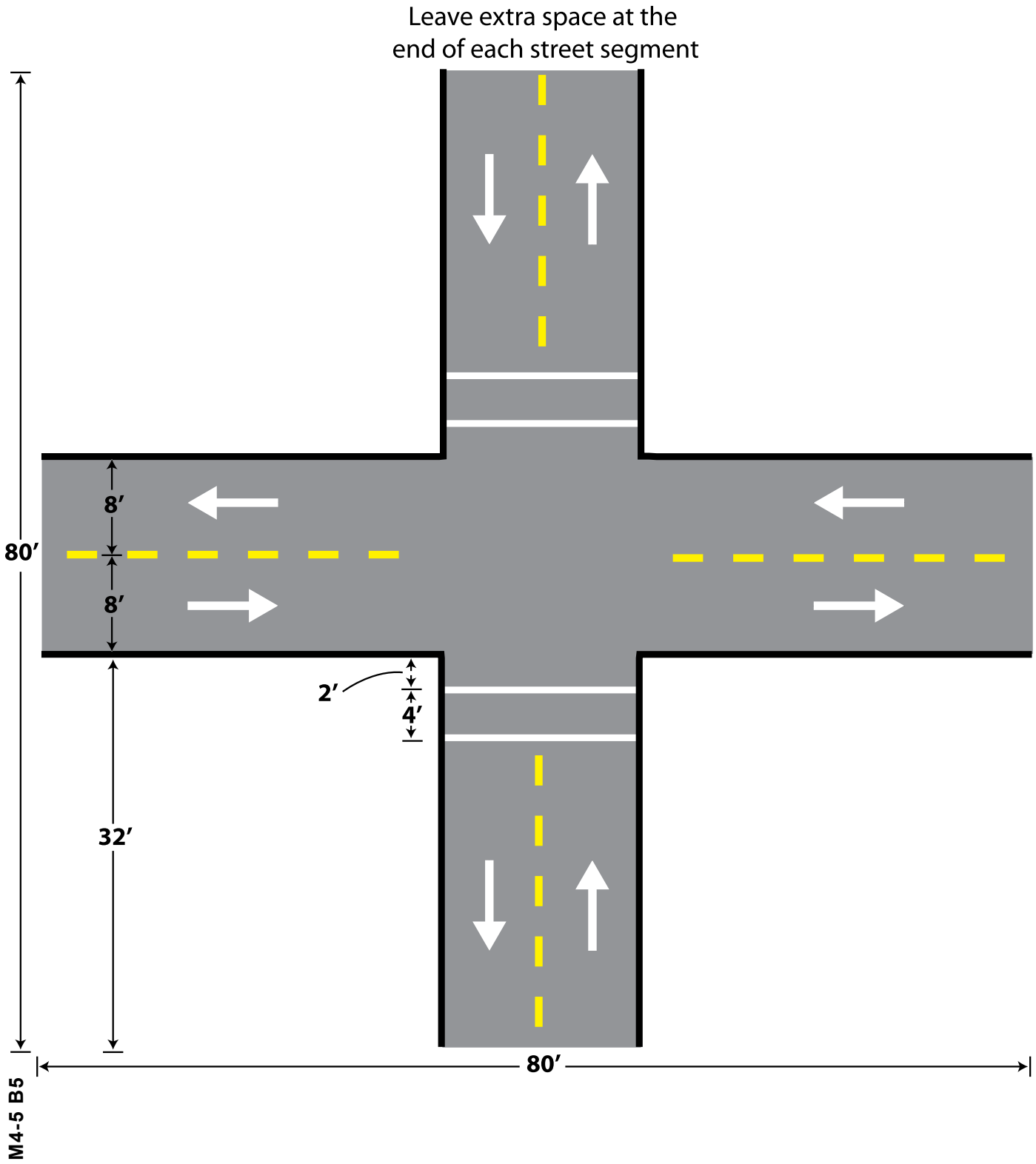
Braking distance is affected by:
- Car — worn brakes, extra weight, bald tires;
- Road — poor surface, spilled oil; and
- Weather — wet or icy conditions.

Reaction time is affected by:
- Distractions in the car (kids);
- Distractions outside the car (sunlight in eyes); and
- Age (thinking process slows as you get older).

Set Up Diagram

Intersection Course

Use the diagram to set up your skills course for Lesson 5.



Let's Go Biking!

Parent/Caregiver Tip Sheet

Basic Traffic Skills

Today your child completed the fifth and final lesson of ***Let's Go Biking!,*** the bicycle component to ***Let's Go NC! A Pedestrian and Bicycle Safety Skills Program for Healthy Active Children***.

The course was designed to help your child learn to bike safely on the street around pedestrians, other bicyclists and motor vehicles in a safe and simulated environment. Review the ***Final Skills Checklist*** to see how your child performed and ask your child to tell you what he or she learned during the course.

PRACTICE AT HOME!

Encourage your child to continue working on these skills, especially those on the checklist where the child needs more work. If possible, bicycle with your child to observe how well he or she handles the bicycle and demonstrates knowledge of rules of the road. It is better for children not to bicycle on the street without adult supervision until they have demonstrated mastery of these skills.

Consider your child's level of maturity, traffic skills, and the amount of traffic on the streets adjacent to your home when deciding whether to permit your child to ride on the street. Establishing boundaries is a good way to keep your child within a specified distance from home. Note that some jurisdictions limit or prohibit bicycling on the sidewalk.

Did you know?

On-bike practice is a critical part of safety training for fourth and fifth graders. By addressing bicycle safety issues and working with your child on basic traffic rules now, you can help reduce your child's chance of having an injury later on.

Children in fourth and fifth grade:

- Are capable of bicycling as far as 10 miles with sufficient snacks and rest periods,
- Need outdoor time and physical challenges,
- Have generally developed enough cognitive capacity to understand more complex road rules, and
- Have improved coordination and reaction time.

Class Child Assessment

Child Assessment – Final Skills Checklist for Grades 4-5

At the end of Lesson 5, children should be able to do the following successfully. Use the following scoring symbols to indicate their level of achievement:

Good +

Satisfactory ✓

Needs more work –

Child Name	Rides in a straight line in correct lane position	Scans for traffic before entering intersection	Joins or crosses traffic without problems	Scans behind before turning left or merging	Signals correctly before turning	Determines correct Right of Way at a stop sign	Obeys red light and green light on traffic signal	Yields to pedestrians

M4-5 B5

Let's Go Biking!

Name_____

Child Assessment

Child Assessment – Final Skills Checklist for Grades 4-5

During the Basics of Bicycling course, your child worked on the bicycle skills shown below to help prepare him or her to bicycle safely in traffic. The following scoring symbols indicate your child's level of achievement:

Good +

Satisfactory ✓

Needs more work –

Please encourage your child to continue working on these skills to master them.

Rides in a straight line in correct lane position	Scans for traffic before entering intersection	Joins or crosses traffic without problems	Scans behind before turning left or merging	Signals correctly before turning	Determines correct Right of Way at a stop sign	Obeys red light and green light on traffic signal	Yields to pedestrians

Comments:

_____

Signature of parent/guardian

_____

Date

Let's Go Biking!

Name_____

Child Assessment

"What Do You Know About Bicycling?" Post-Test

TRUE or FALSE

1. I should ride my bike facing traffic, so I can see what's coming. _____
2. All bicycle riders must stop at all stop signs and red lights just like car drivers do. _____
3. I have to stop my bike when I hear a siren coming from an ambulance, police car or fire truck. _____
4. I don't need lights on my bike to ride at night because I already have reflectors. _____
5. Bicycle riders can safely carry packages in one hand because they can steer with the other. _____
6. Bicycle riders must give hand signals before making turns. _____
7. On my bike, I only have to look for cars straight ahead when crossing a road or riding out of a driveway. _____
8. It's OK for two people to ride on a bike if one sits on the seat and the other sits on the handlebars. _____
9. I don't need to wear a bike helmet because I never ride my bike around cars. _____
10. It's OK to ride a bike that's a little too big for me now, so that I can grow into it next year. _____
11. Cyclists don't have to worry about the color of the clothing they wear. _____
12. Bicyclists should always stop at the end of driveways to check for pedestrians and other vehicles before entering the street. _____

Instructor's Question and Answer Key

Explanation of answers:

1. **False.**
   Riding facing traffic (against traffic) is dangerous for many reasons:
   - The bicycle rider will not see stop signs and other traffic signs.
   - Car drivers are not used to looking for any type of vehicle coming at them from the opposite direction.
   - The impact is much greater when a bike and a car hit each other head on.
   - Wrong-way riding is dangerous and confusing to other bicyclists riding the right way.

   For these reasons, it's illegal to ride against traffic. Ride on the right side of the road, with traffic.
2. **True.**
   When you ride your bike, the law says you must obey the traffic laws and rules just like car drivers and other vehicle operators.
3. **True.**
   Like car drivers, bicyclists must stop for emergency vehicles.
4. **False.**
   Reflectors alone are not enough for night riding. The law requires bicycle riders to use a headlight at night to see better and to be seen by others. Bicyclists should also use a bright red taillight in addition to rear reflectors, which are also required by law. Even with lights, night riding is dangerous and is not a good idea.
5. **False**.
   Bicycle riders should never carry anything in their hands. Instead, they should use backpacks or saddlebags. They need both hands for stability, for steering and for signaling turns.
6. **True.**
   Since bicycles are vehicles, riders are required to signal all turns just like car drivers. Through hand signals, bicycle riders communicate with other pedestrians, bicyclists and other vehicles. This helps prevent crashes.
7. **False.**
   Bicyclists should check for cars not only straight ahead, but also approaching from either side or behind them.
8. **False.**
   The rule is one person per seat on a bicycle. Riding double changes the way the bicycle handles, puts weight where it doesn't belong, and makes it harder to steer and use the brakes. Very young children can be carried on a bicycle, but only in a separate seat specifically designed for that purpose.
9. **False.**
   No other injury can be as serious as a head injury, which can cause death or permanent damage to your brain. No other injury is as easy to prevent. Helmets save lives and prevent injuries. Every bicycle rider needs the protection of a bicycle helmet on every ride.
10. **False.**
    All bicycle riders need bikes that fit them now. A bike that is too big is difficult to control and stop. Children need to be able to stand over the bar comfortably (if it's a diamond frame) and be able to touch at least one foot on the ground while sitting on the seat.
11. **False.**
    A cyclist's clothing is important in helping motorists to see him or her. Brightly colored clothing is recommended during daylight riding, and highly reflective clothing is essential for riding in low light or at night.
12. **True.**
    Bicyclists should always yield right of way to pedestrians and other vehicles whenever they enter a street from a driveway.