

GRADES 4-5 BICYCLIST SAFETY LESSON 1: INTRODUCTION TO SAFE BICYCLING

KNOWLEDGE BUILDING (25 MIN)

Overview

The instructor will lead a discussion on why bicycling is important, introduce bicycles as part of the transportation system, lead a discussion on individual responsibility to practice safe bicycling habits, and explain important practices to stay safe while bicycling.

Outcomes

Students will be able to:

- Explain reasons we bicycle places.
- Recognize that bicycles are a vehicle.
- Recognize that everyone has a role in keeping each other safe.
- Understand the requirements to bicycling in the road.
- Understand how to navigate driveways and alleys.
- Recognize safe practices near traffic such as bicycling on a sidewalk or side of the street, being visible during low-light conditions, and wearing a helmet.

Materials

Appendix A: Visual Aids

- Bicycle Lights
- Bicycle Reflectors
- Driveways / Alleys

Optional:

- Tennis ball, beach ball, or other ball



LESSON PLAN

1

INTRODUCTION

1. Introduce the lesson by asking students: How do you see yourself getting around over the next five years? Common answers may include:
 - a. Public transit
 - b. Family vehicle
 - c. Walking
 - d. Bicycling
 - e. Indego bike share
 - f. Skateboard
 - g. Scooter
2. Acknowledge that we have many transportation options in Philadelphia, which allow people of different ages and abilities to have a choice of how they want to get around. Emphasize that as students get older, these transportation options give students independence to make their own decisions.
 - a. Emphasize bicycling as an excellent option for getting around on your own.
Now that you're older, bicycling is a start to gain more independence.
 - b. Emphasize that with independence comes responsibility. This includes a responsibility for students to act safely to reduce the likelihood of themselves or others from being hurt. This is especially important as students begin to bicycle on the road. Students will learn more about being safe during this lesson.
3. Introduce three categories of reasons to bicycle: transportation, health, and social. Write these categories on the board and call on students to elaborate on these reasons to bicycle. Write their ideas on the board. If you don't have access to a white board, improvise using large sheets of paper or having students write down ideas with partners and report back to the group.
 - a. Transportation
 - *Bicycling is an inexpensive way to travel to school, parks, and other places. Bicycling is also a "green form" of transportation. Cars use gas and produce air pollution, which is bad for the environment. Instead of taking a trip by car, taking a trip by bicycle reduces your negative impact on the environment.*
 - *When you are a skilled bicyclist, bicycling is a way to travel independently.*
 - b. Health (Physical and mental)
 - *Bicycling is a great way to exercise. It helps you build muscle and improves how your heart and lungs function. Bicycling is also good for your mind and feelings. It can relieve stress and make you feel happy and calm when you are sad or angry.*
 - c. Social
 - *Bicycling is a good way to have fun with your friends or family.*
 - *Bicycling is a good activity to do outdoors.*

2

MAIN LEARNING ACTIVITY – HOW AND WHERE WE RIDE BICYCLES

INSTRUCTOR NOTE:

At this age, children are still developing the cognitive abilities required to consistently make safe decisions. Riding a bicycle involves the simultaneous execution of motor skills and cognitive skills. While children are able to perform two tasks at once, they often sacrifice cognitive performance for motor skill performance. As students become more confident in their bicycling skills, it is important to emphasize that caregivers should be involved in decisions about where and when they ride their bicycle.

1. How we bicycle

a. Explain that a bicycle is a vehicle.

Bicycles are large, fast, and are normally ridden in the road. Bicycles are part of traffic, and when you ride a bicycle, you might interact with other people traveling including pedestrians, bicyclists and drivers.

b. Explain to students that they'll learn how to be safe bicyclists during this unit. Being a safe bicyclist is part of maintaining a safe transportation system.

To be safe is to be protected from or not exposed to risk. While we can't control those around us, everyone, including people walking, bicycling and driving cars, has a role to play in keeping each other safe.

- Emphasize that using safe bicycling habits are especially important as students begin to bicycle on the road.

Sharing the road with pedestrians, other bicyclists, cars, buses, and trucks requires everyone to pay attention, follow the rules, and communicate. If one person practices unsafe habits, their actions affect every other person on the road.

c. Emphasize the importance of everyone being safe by asking students: What happens if a car does not stop at a stop sign? Common answers may include:

- Other road users will feel scared or confused.
- The person driving might crash into a person crossing the street.
- The person driving might crash into a person bicycling.
- The person driving might crash into another car.

One person's actions affect everyone else's safety. It is our responsibility to act as safe bicyclists, so people are less likely to get hurt.

2. Where we ride bicycles

INSTRUCTOR NOTE:

At this age, students will begin developing the skills and confidence necessary to ride in the road and some will want to do so as soon as possible. Because bicycling on the road requires constant interaction with other vehicles and the ability to make and implement quick decisions, students and their caregivers should ensure they have learned and practiced the necessary basic bicycling skills before riding in the road.

a. Emphasize that as students get older and have more bicycling experience, they will be better equipped to ride on the road. But even with these bicycling skills, roads with a lot of traffic moving at high speeds are too dangerous and should be avoided. Students under age 12 are allowed to ride on the sidewalk and should be encouraged to do so on roads with lots of traffic or high speeds or if they are still honing their skills.

In Philadelphia, students under the age of 12 are allowed to ride on the sidewalk. The sidewalk is a good place to learn to ride because there are no cars.

As you become better at bicycling, practice riding in the road with an adult or older sibling.

The sidewalk is a good place to ride if you are on a street with lots of traffic or where cars are going fast.

Remember that sidewalks are mostly for pedestrians, so when you ride on the sidewalk it's important do your part to keep everyone safe. You are bigger and faster than people walking on the sidewalk, and you might hurt someone if you crash into them.

- *Ride as straight as you can. Go slowly when you are near other people, so you don't startle them.*
- *When you are passing someone slower than you, give them plenty of space and ring your bell or say, "on your left", so they will know what to expect.*

b. Discuss the importance bicycling with a parent or caregiver.

- Students who are still learning to bicycle safely can benefit from riding with adults who can demonstrate and explain more complex situations.
- Students confident in their abilities should talk to their caregiver about whether or not they can ride in the road and, if so, which roads.

3. Important things to remember

a. Always wear a helmet.

INSTRUCTOR NOTE:

The importance of helmet use is covered in detail in Lesson 2.

b. Do your part to make sure that drivers can see you.

Sometimes it can be hard for a person driving a car to see you – it may be dark outside or you and your bike may not be visible behind another car

- Explain there are a few things students can do to be visible to drivers, using the visual aids provided. These are important all the time, but especially important when it's dark outside.


- *Light or bright colored clothing will make it easier for drivers to see you when you are walking at night or when it is raining or cloudy. Point out a student who is wearing an appropriate color.*

INSTRUCTOR NOTE:

People who drive should always make sure they're paying attention to their surroundings, yet too often when bicyclists are hit by cars, the news headline places blame on the bicyclists (e.g. in a travel lane, wearing dark clothing, not wearing a helmet, etc.). When discussing being visible as a bicyclist, avoid language that places blame.

 [Display Visual Aid: Bicycle Lights]

- *Have lights on your bicycle. The front light should be white, and the back light should be red, just like car lights.*

 [Display visual aid: Bicycle Reflectors]

- *Reflective materials can also help drivers see you at night or in bad weather. **Reflective materials** are shiny and become brighter when light hits them.*

If reflective materials are readily available, teacher can demonstrate to students by dimming the lights and shining a flashlight or cell phone light on the reflective materials.].

c. Be predictable when riding.

- *Other people who are bicycling, walking or driving need to know when you are turning or stopping, expect you to ride in a straight line and not make sudden changes like not moving between the sidewalk and the road.*

d. Whether you are riding on the sidewalk or the road, be careful and pay extra attention at driveways and alleys.



MAKE IT INCLUSIVE!

Point out that the key to being a safe bicyclist is to use multiple senses and be alert to cues in the street environment. These cues can be things a student sees, hears or touches.

They can even be smells!

- Discuss how to cross driveways and alleys safely:
 - *Stop when you arrive at a driveway or alley.*
 - *Look both ways to make sure cars aren't entering the driveway from the street or moving in the driveway. Drivers are often looking for other traffic and might not see you so be careful!*
- *If you see a person inside a parked car, if a garage door opens, if the lights are on, or if you hear the engine, come to a stop and wait until you are sure the car is not moving. If you are riding with an adult, they can help you figure out if the car is going to move soon.*
- *Remember to also stop and look if there is something that blocks your view. If a parked car or plantings are stopping you from seeing the driveway, alley, or road, you'll need to slowly move forward so you can see if a car is coming. Again, if you are riding with an adult, this is something they can help you practice.*
- *If there is no one in the parked car, the lights are not on, or you don't hear the engine, look in all directions to make sure other cars aren't coming. When all directions are clear, it is safe for you to cross the driveway or alley.*

3

WRAP UP

1. Review the lesson by asking: How would you explain what you learned today to a family member or friend? Student answers may resemble:
 - a. Always wear a helmet.
 - b. A bicycle is a vehicle.
 - c. I should be a safe bicyclist to help keep other people safe.
 - d. I should talk to my parent or caregiver about where and when I can practice riding in streets with light traffic and low speeds.
 - e. I can be visible to cars by having a light on my bicycle.
 - f. I will always stop at driveways or alleys and look to see if there are cars or other bicyclists before going.

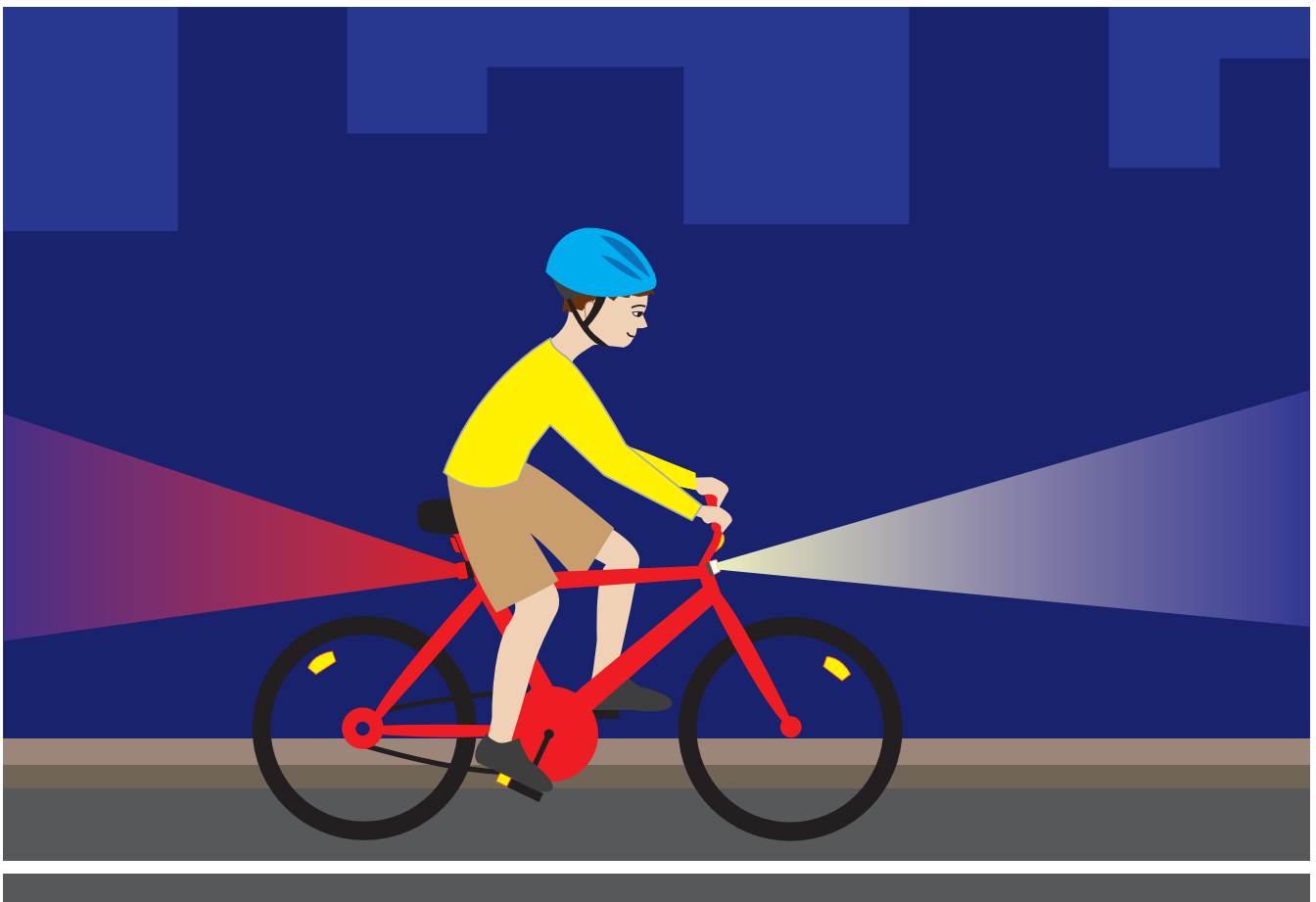
INSTRUCTOR NOTE:

Alternatively, students may write a letter to their family member or friend discussing what they've learned.

2. Ask students what questions they still might have about bicycling and/or today's lesson.

APPENDIX A.1

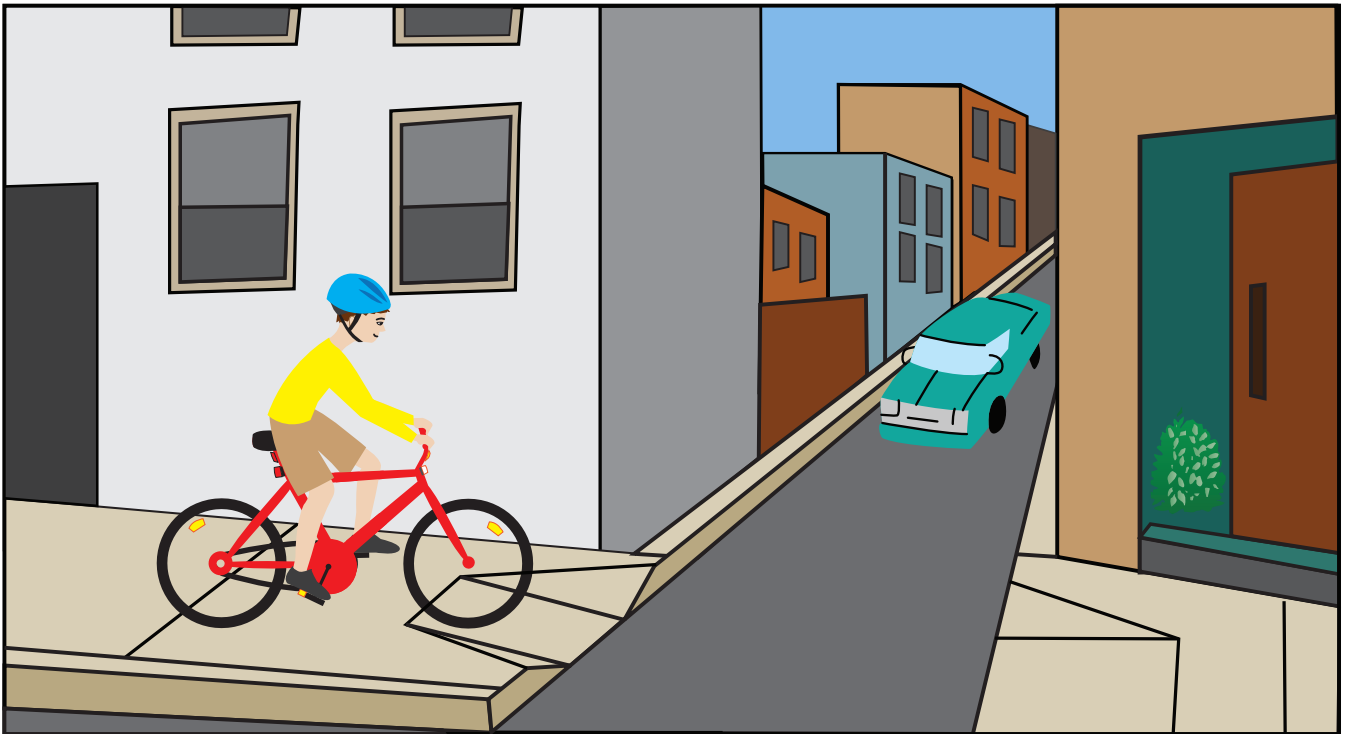
Bicycle Lights



Bicycle Reflectors



Driveway / Alley



GRADES 4-5 BICYCLIST SAFETY LESSON 2: BICYCLE HELMET AND EQUIPMENT

KNOWLEDGE BUILDING AND SKILL ACTIVITY (20 MIN)

Overview

The instructor will explain the importance of wearing a helmet and checking your bicycle for safety before every ride. The lesson will cover how to properly fit a helmet, how to fit a bicycle, and how to perform the Bike ABC safety check before riding.

Instructor Note: This lesson is designed to be flexible and can be adapted by instructors according to the amount of time available to teach and the availability of helmets and bicycles for demonstration or student practice. The core lesson centers around short videos on helmet fit and bicycle check, but also includes optional activities for both helmet fitting demonstration and/or practice and bike check demonstration and/or practice. If adding the optional activities, this lesson can be divided into two separate lessons: Main Learning Activity A – How to Wear a Helmet and Main Learning Activity B – Bicycle Fit and ABC's.

Outcomes

Students will be able to:

- Understand why it's important to protect your head with a helmet.
- Explain how to properly fit a helmet.
- Identify improper ways to wear a helmet.
- Understand that anyone can get into a crash.
- Explain why a properly fitted bicycle is important and describe two basic ways to check for bicycle fit.
- Describe the process for checking whether a bicycle is safe to ride (Bike ABCs).

If helmets and/or bicycles are available, students will be able to:

- Demonstrate how to properly fit a helmet.
- Demonstrate the steps to perform a pre-ride safety check (Bike ABCs).

Materials

Main Learning Activity A: Helmet Fitting

- SRP “Helmet fitting with Mr. Cy” video (2:58)

Appendix A.1: Helmet fitting activity page (optional)

Appendix A.2: Egg drop activity and materials (optional)

- If access to equipment:
 - 1 helmet for instructor demonstration (if possible)
 - Appendix A.3: Helmet Fitting Activity
 - Appendix A.4: Triangle Tag

Main Learning Activity B: Bike ABCs

- SRP “Bike ABCs” video (3:33)
- Appendix B.1: Bike ABCs Activity Page (optional)
- If access to equipment:
 - Appendix B.2: Bicycle Fitting Activity Guide
 - 1 bicycle for the instructor
 - 1 bicycle for every two students

Appendix C: Visual Aids

- Helmet parts
- Helmet profiles

Volunteers/ Teaching Assistance

Adult volunteers or older student (grades 6-8) support is recommended if choosing to implement optional activities that allow students to practice helmet fitting or bicycle fitting or Bike ABC's. One volunteer for every 5-8 students is recommended.

The instructor should give a brief overview of the activity and important safety lessons to volunteers of any age.

Involve special education teachers in lesson planning and instruction as needed for any students with differing abilities.



LESSON PLAN

1

INTRODUCTION

1. Introduce the lesson by explaining that it is important to know how to use the two pieces of equipment needed for bicycling, and that it's important to practice bicycle safety before getting on a bike (not just when riding it!).

Today we'll learn why and how to wear a helmet and how to make sure the bicycle you are riding fits you and is safe before you ride on it.

2

MAIN LEARNING ACTIVITY A HOW AND WHY TO WEAR A HELMET

1. Introduce Philadelphia's helmet law that requires anyone under age 12 to wear a helmet.
Philadelphia law states that if you are under 12 years old, you must wear a helmet when you ride your bicycle. If you are older than 12, the law does not require you to wear a helmet, but helmets are essential in protecting your head.
 - a. Relate the importance of helmets to seatbelts.
Philadelphia also has a law that states everyone must wear a seatbelt. Wearing your seatbelt is like wearing your helmet. It's very important to keep you safe. Do you always wear your seatbelt? Yes! Wearing your helmet is another thing you should always do.
2. Explain the importance of protecting your head and your brain when riding a bicycle.
 - a. Every part of the human body is important to stay alive, but one part of the body controls everything else.
 - What part of the body is it? The brain.
 - How does your brain control your body? What does the brain do that is so important? The brain helps you move, see, hear, smell, taste, etc. The brain helps your heart to beat and your lungs to use oxygen to breathe.

- Your brain keeps you alive by controlling your body so that each body part does its job. The brain is also responsible for what makes you unique: your thoughts, feelings, emotions, and memories.
- The brain is like a computer that makes everything else work. Would you ever drop the school computer or throw a cellphone? No, because the computer or cellphone would break, and it would not work like it is supposed to. So, you should protect your head like you would a computer.



MAKE IT INCLUSIVE!

Reiterate the value for all students to wear helmets regardless of the type of bicycle they ride.

- Emphasize that helmets can protect your head and brain if you get into a crash. *If you get into a crash, you might hit your head on the sidewalk or road, or on cars, trees, or other big objects. A helmet protects your head in case a crash happens.*
 - Remind students that anyone can get into a crash, regardless of their bicycling ability.
 - Crashes can happen to anyone, even if they have been bicycling for their whole life.
 - Crashes can happen anywhere even on a sidewalk or trail. Anything can cause a crash, like an untied shoe, broken chain, or uneven pavement.
 - Because your brain is such a complex organ, it doesn't heal as easily as a bruise or broken bone might.
 - Because there's always a chance that something could go wrong, you should always wear a helmet to protect your head.

INSTRUCTOR NOTE:

For a fun and hands-on activity to emphasize the importance of helmet safety, the *Egg Drop Activity* (Appendix A.2) provides a great visual of how the brain can be protected from impacts.

3. Explain that helmets not only keep you safe, but you can look good in them too!

INSTRUCTOR NOTE:

At this age, students may begin to feel that wearing helmets is not "cool." Encourage students to find a helmet that they will consistently wear.


4. Show students the short video, "Helmet Fitting". This video teaches students how to fit a helmet in relation to their eyes, ears, and mouth.
5. Review the video content by reminding students that a helmet only works when it properly fits on your head.

Which three body parts should you use to make sure your helmet fits?

 - a. *Eyes: Place the helmet so it is level on your head. If you can see the brim of the helmet when you look up, you have placed it correctly!*
 - b. *Ears: Adjust the side straps so they create a tight V underneath the earlobes. This secures your helmet from moving side-to-side.*
 - c. *Mouth: The chin strap should be buckled below your chin. There should be a space for two fingers between your chin and the strap.*
 - d. *Shake your head to test the security of the helmet. If it wiggles on your head, it's not fitted correctly.*

INSTRUCTOR NOTE:

Some helmets have an adjustable dial on the back. Before adjusting the straps, turn the dial to the right to tighten it around your head. The helmet should feel secure but not give you a headache.


6.  [Display Visual Aid: Helmet Parts] Introduce the parts of a helmet that protect your brain. The helmet has three main parts: straps, shell, and liner.
- a. *The straps keep the helmet in place while riding and during a crash.*
 - b. *The smooth shell slides on rough pavement. If you fall or get in a crash, your head will slide and not get caught on anything.*
 - c. *The liner is made of foam that reduces the impact on the head and brain by absorbing the shock.*
7. If available, the instructor may demonstrate the Eyes/Ears/Mouth check using an adult-sized helmet on their own head.

INSTRUCTOR NOTE:

Lesson 3 includes activities for students to practice fitting a helmet before practicing basic maneuvers on a bicycle as it is assumed that most instructors will have limited access to bicycle equipment. However, if you have access to helmets and volunteers for this lesson, please incorporate the *Helmet Fitting Activity (Appendix A.3)* to give them hands-on practice in adjusting helmet fit. If time is available, the *Triangle Tag Activity (Appendix A.4)* is a great physical activity to test the fit of students' helmets as well.

3

WRAP UP – HOW TO WEAR A HELMET

1. Reiterate the importance of wearing a helmet and ask: Why should you wear a helmet? Common answers include:
 - a. It's a law in Philadelphia that I have to wear a helmet.
 - b. My parent/caregiver said I should wear a helmet.
 - c. It will protect my brain in case I get into a crash.
2.  [Display Visual Aid: Helmet Profiles]
Review the proper way to wear a helmet using images. Show students three profiles showing different ways to wear a helmet. Discuss which profile is wearing their helmet correctly and identify why the other profiles are wearing their helmet incorrectly.
 - Profile 1: Helmet is too low on the forehead.*
 - Profile 2: Helmet is too far back on the head*
 - Profile 3: Helmet is backwards*
 - Profile 4: Helmet is carried on the bicycle handlebars (i.e. is not worn)*
 - Profile 5: Helmet fits correctly.*



LESSON PLAN

4

MAIN LEARNING ACTIVITY B BIKE FIT AND ABCS

1. Introduce the lesson by emphasizing the importance of a proper sized bicycle.
 - a. Explain that bicycles come in different sizes.
As you get taller, you will need a bicycle that is bigger.
 - b. Explain that bicycles can be adjusted to fit your height.
The bicycle should be the right size for your height. Once you have a bicycle that is the right size, you or an adult can adjust the seat so that it is comfortable for you.
 - c. Explain that riding a bicycle that does not fit can lead to serious consequences.
A poorly fitted bicycle is uncomfortable to ride, hard to balance on, and difficult to stop. A poorly fitted bicycle could cause you to get into a crash if you are unable to control it well.
 - d. Explain that there are two things to check to make sure the bicycle you are riding is the right size for your height:
 - *The frame should be short enough so that you can stand over it (enough room for two fingers between the rider and the top bar).*
 - *The seat should be tall enough so that the balls of your feet touch the floor when you're sitting on it. For beginner bicyclists, your feet should be flat on the floor.*
2. Introduce the Bike ABCs as a safety check that the student and their parent or caregiver should always perform before riding.



MAKE IT INCLUSIVE!

Explain that students have different abilities, and there are different types of bicycles they can ride depending on their abilities. This includes the tandem bicycle (buddy bicycle), trike (upright or recumbent), and hand cycle.

Reiterate the value for all students to learn safe riding habits.

3. Show students the short video "Bike ABCs". The video explains how to do a pre-ride safety check. The video covers the following key things to check on your bicycle before riding:
 - a. **A is for Air:** Check the air pressure in the tires. Air pressure will help you determine if your bike tires are filled with the right amount of air. Pinch the side of the tire; inflate the tire if it feels soft. The best method is to pump the tire based on the tire pressure (psi) stated on the side of the tire.
 - a. **B is for Brakes:** Check to handlebar brakes, roll the bicycle backwards and pushing on the brake. If the bicycle stops, the handlebar brake works. Check pedal brakes by lifting the back tire, push the pedal forward (the wheel spins). Push the pedal backwards; if the wheel stops, the pedal brake works.

a. **C is for Chain:** Check the chain by turning the pedals. If the chain moves, then the chain works. Brown chains are rusty and should be cared for by an adult to make sure they don't lock up.

4. Optional demonstration: If you have access to a bicycle and can bring it to school, demonstrate how to check if the bicycle is the right fit for your height, and perform the Bike ABCs for students so they can understand that it is simple and does not take too much time. You may also check for understanding by having students take turns checking the bike. For fun, have them guess how long they think it will take you to complete the Bike ABCs!

INSTRUCTOR NOTE:

If you have access to bicycles and volunteers, the Bike Fitting Activity (Appendix B.2), where students practice fitting a bicycle to their height and perform the Bike ABCs, is highly recommended to reinforce understanding of proper bicycle fitting and the pre-ride safety check.

5

WRAP UP – BIKE ABCS

1. Give students 1 minute to think about one thing they learned in this lesson that they will share with a family member or friend. Instruct students to turn to a neighbor and discuss for 2 minutes. Ask a few students to volunteer to share what they will discuss with their family member or friend. Student answers may resemble:
 - a. I should always wear a helmet, and it needs to fit my head.
 - b. A helmet will help protect my brain in case I get into a crash.
 - c. The Bike ABCs stand for air, brakes, and chain.
 - d. I should always check to make sure my tires are full, my brakes work, and that my chain is tight before I ride.
 - e. A bicycle that doesn't fit can be dangerous to use.
2. Encourage students to share what they learned with their family members and friends.

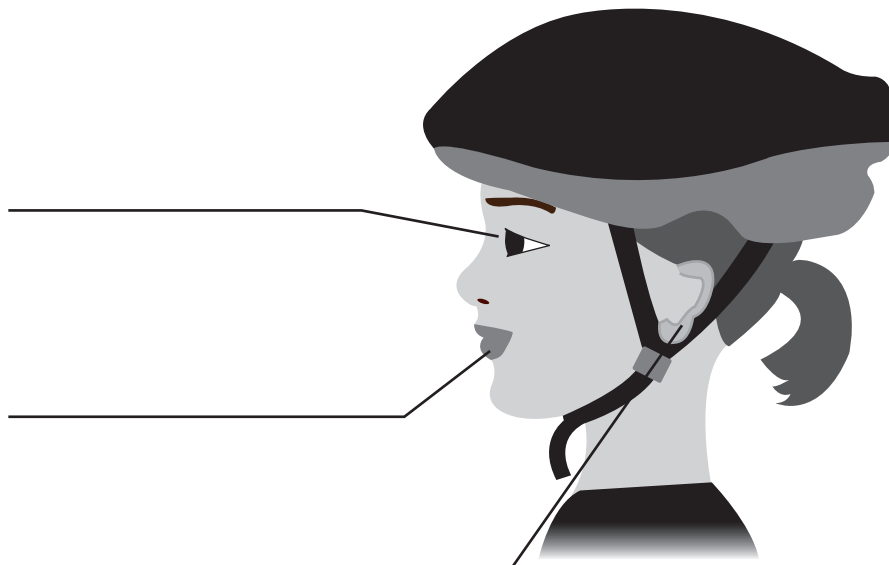
APPENDIX A.1

Helmet Fitting

Circle the Correct Image.



What three face parts do you use to remember how to fit your helmet?



APPENDIX A.2

ADDITIONAL LEARNING ACTIVITY: EGG DROP (10–15 MIN)

Overview

Demonstrate how a helmet protects our brain by completing an egg drop learning activity.

Materials

- 2 eggs
- 2 zip-lock plastic bags
- 1 Styrofoam cup lined with paper towel)

For a more hands-on lesson, pair students up and distribute the above materials for *each pair*.

A full, science-based lesson with this activity included connecting brain function and helmet use is available at phila.gov/otis.

1. Place two eggs in zip lock bags.
2. Wrap one egg/zip lock bag in a paper towel and place it in a Styrofoam cup. The cup represents the helmet. Drop the cup from your waist straight to the floor.
 - a. The egg should not break (though it may have cracks).
 - b. Allow the students to make observations, but do not hold the discussion yet.
3. Take the egg/zip lock bag and drop it to the floor. The egg will break.
4. Call on students to share their conclusions about what this demonstration means: Helmets will protect our brains from getting hurt.
5. Share with the students that helmets are made of thick Styrofoam that protects our head.

INSTRUCTOR NOTE:

For a more hands-on lesson, pair students up and let each pair of students drop the eggs and record their observations. Add on an extra 10-15 minutes for this activity.

APPENDIX A.3

SUPPLEMENTAL LEARNING ACTIVITY: HELMET TRY-ON (15-20 MIN)

If the instructor has access to helmets and volunteers, this activity is highly recommended. Students will also need to put on helmets correctly in Lesson 3. Students who practice putting on their helmet will be more proficient at proper helmet use and will be able to put their helmet on quicker, allowing for more instructional time in Lesson 3.

Overview

Students will learn how to fit a helmet to their head.

Materials

- Various sized helmets for each student

Volunteers/ Teaching Assistance

Adult volunteers or older student (grades 4-5 or 6-8) support is recommended. One volunteer for every 5-8 students is recommended.

The instructor should give a brief overview of the activity and important safety lessons to volunteers of any age.

Involve special education teachers in lesson planning and instruction as needed for any students with differing abilities.

1. Instruct students to put on their helmet and fit it to their head by following the instructions in the helmet fitting video.

- a. Pair students and have them take turns putting their helmet on and fitting it to the correct fit. The other student should watch and let their partner know if the helmet looks like it is fitted incorrectly.

- b. Instructor and classroom volunteers should walk around the room and should answer any questions or identify any errors.

- c. Common helmet errors include:

- Helmet is too far off the forehead
- Helmet is not buckled
- Helmet is buckled too loosely

- Helmet is not the right size – have students choose another size

INSTRUCTOR NOTE:

See Appendix A.4 for the Triangle Tag Activity where students do a fun physical activity to test the fit of their helmet.

APPENDIX A.4

ADDITIONAL LEARNING ACTIVITY: TRIANGLE TAG (10 MIN)

This activity is a follow-up to the additional Helmet Fitting activity.

Overview

Students will check to see if they fit their helmet correctly with a fun physical activity.

Materials

- Various sized helmets for each student

1. Check for helmet fit by having students play Triangle Tag. All students may be wearing helmets for this activity.
 - a. Divide students into groups of four.
 - b. Have students designate one person as the "tagger" and one person as the "target."
 - c. Instruct the "target" and the two other students to hold hands and stand in a triangle formation. The "tagger" should stand outside of the group of three.
 - d. Blow a whistle to begin the game. The "tagger" must try to tag "target" while the group spins or moves side-to-side. The group should work together to protect the "target." The tagger should not go under or over the group but should run around.
 - e. If the "target" is tagged, the group should switch roles.
 - f. After a few minutes, blow to whistle to have all students pause where they are. Groups should disband and look at each other's helmets. Those who did not secure their helmets should be obvious.

APPENDIX B.1

Bike ABCs

Identify what A, B, and C stand for in the Bike ABCs.
Then, write WHY it is important to check each part before
your ride.



A is for _____

I check my _____ because . . . _____

B is for _____

I check my _____ because . . . _____

C is for _____

I check my _____ because . . . _____

APPENDIX B.2

ADDITIONAL LEARNING ACTIVITY: BICYCLE FITTING

If the instructor has access to bicycles and volunteers, this activity is highly recommended.

Overview

Students will practice how to fit a bicycle and how to perform the Bike ABC safety check.

Materials

- 1 bicycle for every two students

Instructor Note: Instructors may want to have a basic bicycle repair kit and/or tire pump to help make seat adjustments or inflate tires as needed.

Volunteers/ Teaching Assistance

- Adult volunteers or older student (grades 4-5 or 6-8) support is recommended. One volunteer for every 5-8 students is recommended.
- The instructor should give a brief overview of the activity and important safety lessons to volunteers of any age.
- Involve special education teachers in lesson planning and instruction as needed for any students with differing abilities.

1. Group students into pairs. Pairs should be a similar height so they can share a bicycle. Have students go through the steps to identify the correct bicycle and to adjust the seat for each student.
 - a. Pairs should work together to find the right bicycle for their height.
 - b. Have one student sit on the bicycle.
 - c. Have partner check to see if the student has both feet on the floor.
 - d. Students should work together to adjust the seat using the quick release. If the seat is not adjustable via quick release, have classroom volunteers nearby to adjust the seat for the students. Have the partner check again to see if the student can put both feet on the floor.
 - e. Repeat for each student.
 - f. The instructor and other classroom volunteers should actively check each pair and assist if they need help adjusting the seat or checking if the seat is at the right height.

2. Instruct pairs to work together to perform the Bike ABCs.

- a. Go through each letter of the Bike ABCs.
 - Ask students to explain what the letter means.
 - Provide any clarification and explain how to check the bicycle part related to that letter.
 - Instruct students to check the bicycle part related to that letter.
 - Repeat for each letter.

Students should raise their hand if something is wrong with their bicycle.

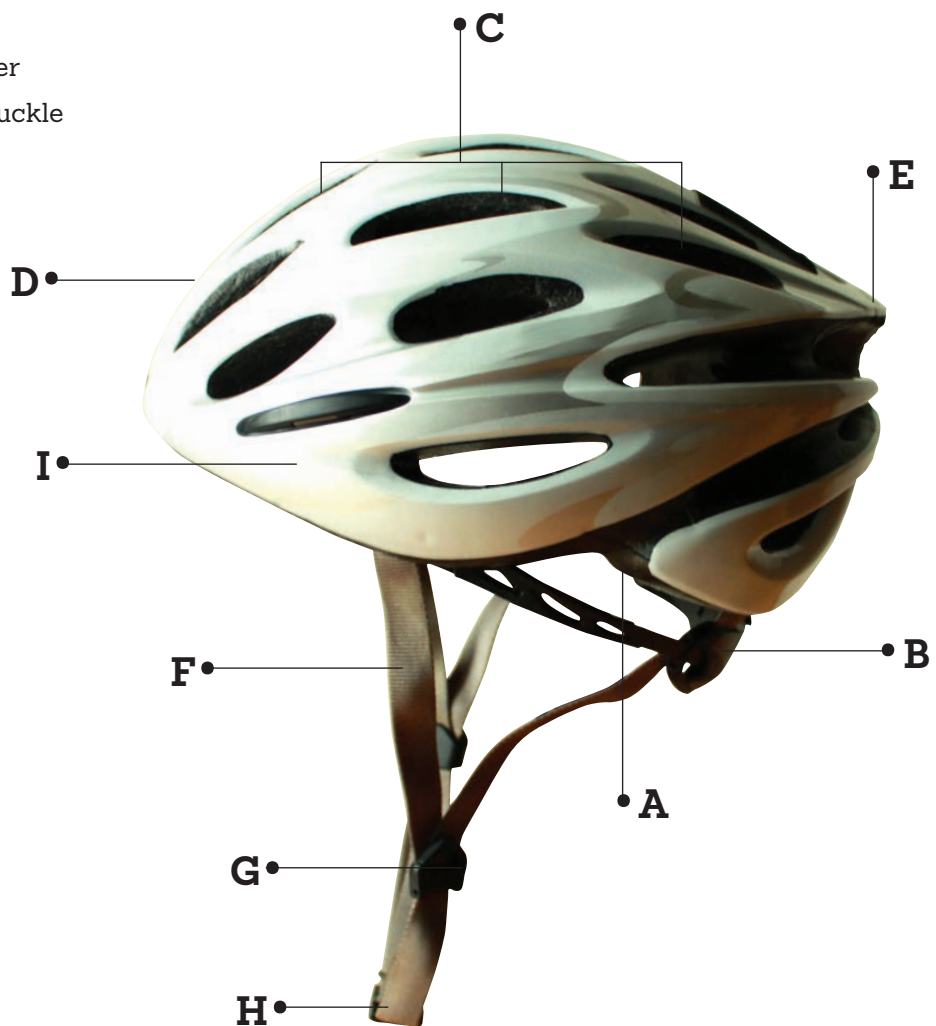
INSTRUCTOR NOTE:

For classes with English language learners or non-English speakers, de-emphasize the ABC letters and focus on the bicycle part (air, brakes, and chain).

APPENDIX C

Helmet Parts

- A** Foam
- B** Universal-fit mechanism
- C** Vents
- D** Front of helmet
- E** Back of helmet
- F** Straps
- G** Adjuster
- H** Chin buckle
- I** Shell



Profile 1



Profile 2



Profile 3



Profile 4



Profile 5



GRADES 4–5 BICYCLIST SAFETY LESSON 3: BICYCLING BASICS*

SKILL ACTIVITY (35 MIN)

* **Bicycles and helmets are required for Lesson 3.** This lesson is all “on-bike” and is designed for students who already know how to ride a bicycle. The instructor may acquire bicycles with training wheels for students who are still learning to ride.

Overview

Students will practice properly fitting a bicycle helmet and performing a pre-ride safety check. (Note: If these activities were done in Lesson 2 this part of the lesson may be presented as review).

Students will learn and practice foundational skills needed to bicycle safely on trails and sidewalks and to prepare them for riding on the road and other more advanced skills. The bicycling drills occur on a bicycle course set up by the instructor and include proper starting, braking, riding in a straight line, and turning.

Students of all bicycling abilities should participate in this lesson before moving on to Lesson 4.

Instructor Note: This lesson is designed to be flexible and can be adapted by instructors according to the amount of time available to teach, and the availability of helmets and bicycles for student practice. If equipment is available on multiple days, the following lesson may be divided into shorter lessons.

Outcomes

Students will be able to:

- Demonstrate how to properly fit a bicycle helmet and how to perform a pre-ride safety check (Bike ABCs).
- Demonstrate basic bicycle maneuvers, such as balancing, pedaling, braking, and controlled stopping.
- Demonstrate ability to ride in a straight line and turn.
- Demonstrate how to follow other cyclists safely.

Materials

- Bicycle and helmet for each student
- Tape or chalk to create lines on the ground
- Tall cones
- Appendix A: Visual Aids
 - Stop signs
- Appendix B: Slalom Course Activity (Optional)
- Appendix C: Riding with One Hand Activity (Optional)

Please note: Visual aids can also be found on the resources page of phila.gov/OTIS

Volunteers/ Teaching Assistance

Adult volunteers or older student (grades 6-8) support is recommended to assist students with helmet fitting, bike fitting, and general guidance during the skill drills. One volunteer for every 5-8 students is recommended.

Involve special education teachers in lesson planning and instruction as needed for any students with differing abilities.



LESSON PLAN

1

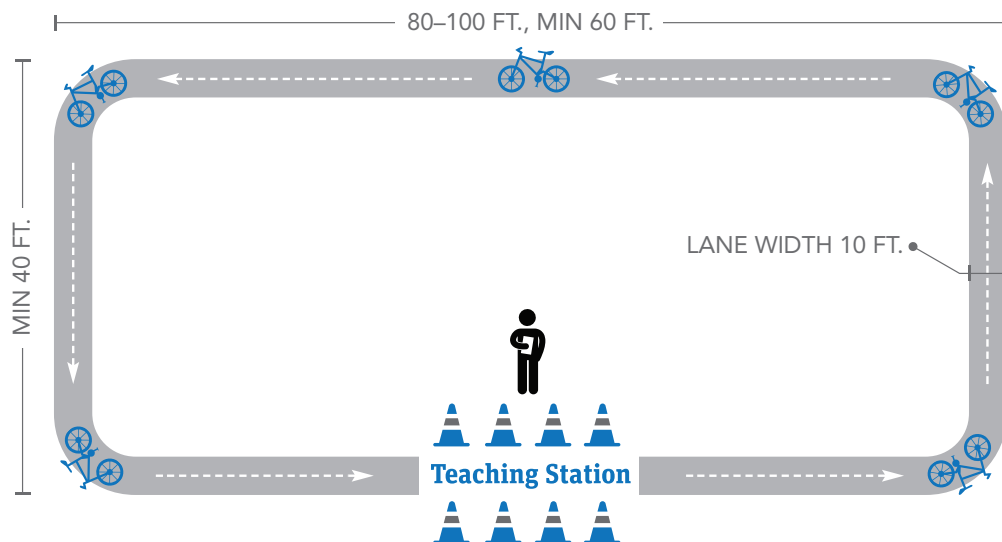
SET UP

- This lesson can be taught at a parking lot, gym, playground blacktop, or other available flat space that is away from traffic.
- Use chalk or tape to create a rectangle-shaped bicycle course with soft corners. Refer to the diagram below.
- The size of the bicycle course can be customized based on the available space. The course can be as long as 80-100 feet. If space is limited, the course can be shortened to 60 feet, but the short sides of the course should be a minimum of 40 feet long. The lanes should be 10 feet wide.
- The course should be sized so that students are able to hear the instructor at any point along the course. A larger course allows for more space between students.

INSTRUCTOR NOTE:

If you have space and adequate volunteers, consider setting up two courses to allow more kids to practice simultaneously.

- Designate a “teaching station” along the long side of the course with cones on either side. The instructor will stand at the station to observe each student performing the learned skill. Students can gather with their bicycles around the “teaching station” for verbal instruction.
- Designate a course entry point with a cone.
- Volunteers are recommended to observe student activities by standing on the outside of the bicycle course and providing guidance or assistance as needed.



2

INTRODUCTION

1. Introduce the lesson by saying that everyone is going to learn and practice some basic skills important for riding a bicycle. Ask students what they think are basic skills for safely riding a bicycle. Student responses may include: Basic skills like balancing, pedaling, stopping/braking, riding straight, and turning are essential to learn before riding on the road like adult bicyclists.
2. Equip each student with a helmet and bicycle. The instructor and volunteers should check for proper equipment use and assist as needed.
3. Check helmet fit and Bike ABCs.
 - a. Instruct students to put on helmets and to check that it fits with the Eyes, Ears, Mouth method.
 - b. Remind students that the Bike ABCs should always be done before riding a bicycle. Ask students what the A, B, and C stand for. Have students check their air, brakes, and chain, and to raise their hand if anything is wrong with their bicycle.
 - c. Instruct students to raise or lower their seat so that the balls of their feet touch the floor when they are sitting down on their bicycle. Instructor and volunteers should assist as needed but encourage students to make adjustments themselves.
4. Explain the course set up to students. The course is set up so that students may take multiple turns riding their bicycles on it, each time practicing a specific skill as requested by the instructor – balancing, pedaling, braking and riding straight.
 - a. Emphasize the importance of riding in a straight line, maintaining a slow and consistent speed, and controlling the bicycle through turns and during stops. To be safe and predictable bicyclists, students must be able to control their vehicle. These skills are important for riding on the sidewalk so that bicyclists can avoid pedestrians. These skills

INSTRUCTOR NOTE:

Many kids at this age begin to take more risks while riding. These basic skills are essential to safe riding and negotiating traffic when students begin to ride in the road. Students who already have good bicycle skills will still benefit from practicing with focused attention on bicycle control.

also prepare students for riding on the road.

- b. Emphasize the importance of proper stopping technique.
Stopping correctly is essential in many situations and can help to avoid crashes It's important to master stopping before riding on the road near cars.
- c. Ask students where they should come to a stop when riding a bicycle.
 - Driveways, alleys, intersections, and at stop signs and traffic signals

3

DEMO – BALANCING, PEDALING, BRAKING, RIDING STRAIGHT, TURNING

BALANCING

Introduce balancing as an essential part to getting started on a bicycle.

If you can balance on a bicycle, you can control the bicycle.

1. Demonstrate how to balance a bicycle without pedaling (coasting).
 - a. Use both feet to push forward.
 - b. Lift up both feet as the bicycle begins to move.
Students may put their feet down to slow the bicycle if they lose control of their bicycle.
 - c. Push forward again when the bicycle begins to lose momentum.
 - d. Keep knees and feet close to the bicycle and squeeze the seat with your thighs to help with balance.

PEDALING

1. Introduce the idea of a “Power Pedal”.
Getting started can be difficult, but the Power Pedal helps you start to pedal in a powerful way. The first push will have lots of power, and it will help you stay balanced.
2. Demonstrate how to start pedaling from a standing position.
 - a. Straddle the bicycle with both feet on the ground.
 - b. Choose what foot you would like to use to for the “Power Pedal”.
 - c. Pedal backwards so that the pedal on your chosen side is at a high position. This is the push-off pedal.
 - d. Put your foot on the high pedal and push down to start the bicycle rolling.



MAKE IT INCLUSIVE!

Students with decreased muscle strength may need a push from behind to gain enough momentum.

Walk alongside students who need assistance starting or stopping.

Provide verbal cues to stop prior to a student arriving at the stop sign.

Adaptive bicycles are more likely to have coaster brakes. Ensure students riding adaptive bicycles understand how to use the coaster brake.

- e. As the bicycle begins to move, lift your other foot and place it on the second pedal and sit on the saddle as you are pedaling forward.

BRAKING

1. Orient students to the types of brakes they have on their bicycles and explain and demonstrate the process of stopping by using the relevant brake.

INSTRUCTOR NOTE:

Some bicycles have both hand brakes and coaster brakes; however, coaster brakes typically begin to phase out at this age.

- a. **Hand brakes:** brakes operated by levers on the handlebars.
 - i. Slowly press both hand brakes at the same time. The right hand controls the rear brake, and the left hand controls the front brake.
If students press the left brake more than the right brake, thus applying more force to the front brake, they may flip over the handlebars.

ii. *As the bicycle slows, position the bicycle pedals so one foot is at the top and one foot is at the bottom.*

iii. *As the bicycle slows to a stop, remove foot that is at the top and step onto the ground.*

b. Coaster brakes: brakes operated by turning the pedals backwards.

- *Pedal backwards to slow the bicycle.*
Students should pedal backwards gently to avoid sudden stops.
- *As the bicycle slows, position the bicycle pedals so one foot is at the top and one foot is at the bottom.*
- *As the bicycle slows to a stop, remove foot that is at the top and step onto the ground.*

RIDING STRAIGHT AND TURNING

1. Explain the importance of riding in a straight line.

Riding in a straight line is a necessary safety skill to learn. When you ride straight, you can stay on the sidewalk/in the bike lane and can ride next to your friend or family member. Riding straight also helps cars, bicyclists, and pedestrians predict your movement.

2. Demonstrate riding in a straight line and controlled turning. Emphasize no sudden movements or changes in direction and maintaining or slowing speed through the turn.

4

4. DRILL – BALANCING, PEDALING, BRAKING, RIDING STRAIGHT, TURNING

INSTRUCTOR NOTE:

It is important for the instructor to monitor each individual student's ability and proficiency as they practice these skills. Encourage students to work at their own pace and master one skill before moving to the next. It may be helpful to group students by skill level to monitor proficiency. Students who master skills may be separated to work on more advanced skills; refer to the optional skill-building activities and create a separate course if possible.

1. Students should line up in a single file at a designated course entry point (to be determined by the instructor). While in line, students can straddle the top tube of their bicycle or stand next to the bicycle.
2. Instruct students to enter the course, making sure to control the bicycle so that they stay within the lines of the course. Emphasize the importance of keeping at least two bicycle lengths between students.
3. Instruct students to begin navigating the course by balancing and coasting. As students become more proficient in balancing, encourage them to increase the amount of time balancing between pushes. Students should put both feet on the ground to stop the bicycle.
4. For new riders, when students become proficient in balancing and maintaining control of their bicycle (not wobbling), instruct them to place their feet on the pedals as they coast. Students should remove their feet from the pedals and put both feet on the ground to stop the bicycle.
5. When students demonstrate sufficient balance, ask students to line up again and one-by-one practice the Power Pedal start, pedaling around the course and activating their brakes. (Stop signs

can be used here if desired.) Encourage them to start and continue pedaling slowly, maintaining balance and control of their bicycle. Encourage them to gently activate their brakes as they ride, especially when turning corners or if they begin to get too close to other students.

INSTRUCTOR NOTE:

Make sure to correct students who are not riding in a straight line or controlling their bikes. Some students will be tempted to "hot-rod" this course by riding very quickly as they gain more confidence and take more risks. Challenge these students to see how slowly they can ride the course (a higher skill to maintain balance.)

If students are showing proficiency with balancing, pedaling, braking, riding straight and turning, you can make this lesson more challenging with either of the following activities:

- The Slalom Course Activity (Appendix B) requires students to weave between cones on their bicycles to practice their turning skills. This optional activity requires a slight adjustment to the bicycle course as noted in the activity guide.
- The Riding with One Hand Activity (Appendix C) encourages students to practice bicycling with one hand while riding straight. This skill prepares students for the hand signal activity in Lesson 4.

5

WRAP UP

1. Ask students if they have any questions on starting, braking, turning, or riding straight.
2. Discuss students' experience with learning basic bicycle skills. Gather students and ask the following questions:
 - a. *What skill do you need to practice more?*
 - b. *What skill do you feel confident with?*
 - c. *What else would you like to learn about bicycling?*

INSTRUCTOR NOTE:

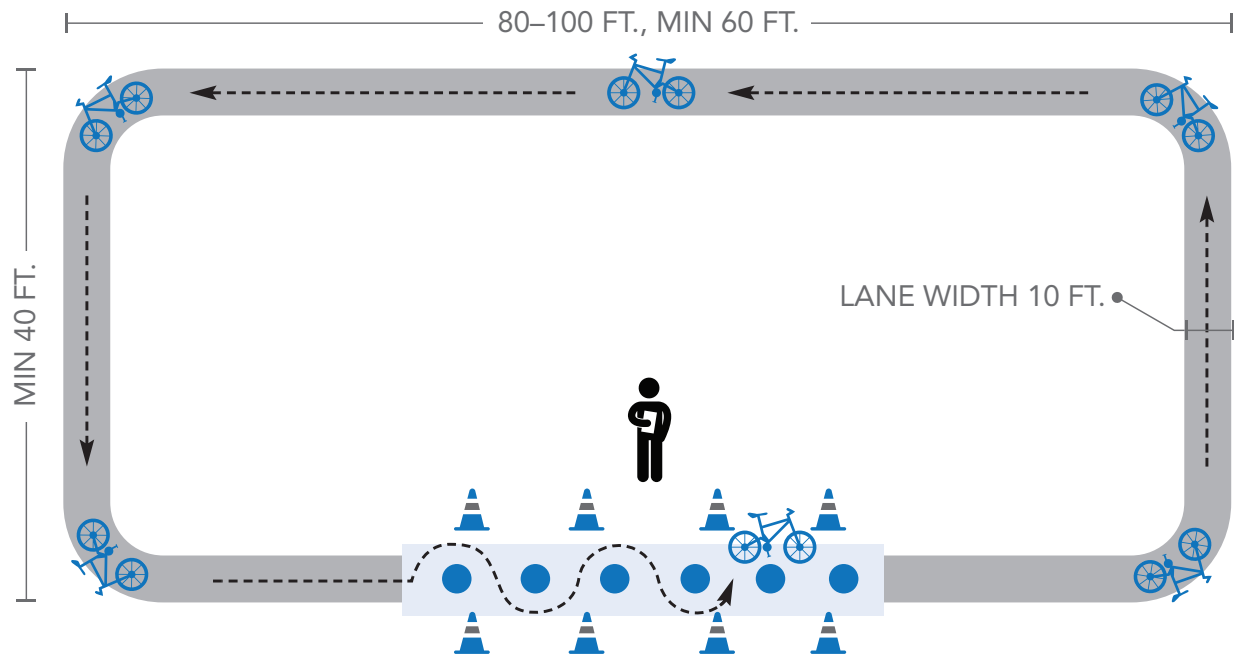
The wrap-up can also be done as a journaling activity.

APPENDIX A



APPENDIX B

ADDITIONAL LEARNING ACTIVITY: SLALOM COURSE



APPENDIX C

ADDITIONAL LEARNING ACTIVITY: RIDING WITH ONE HAND

If students are showing proficiency with balancing, pedaling, braking, riding straight and turning, students can practice riding with one hand. Riding with one hand prepares students to use hand signals learned in Lesson 4. Note – this should only be done when riding straight.

Overview

Students will practice riding with one hand while bicycling straight.

Materials

- Bicycle and helmet for each student
- Training wheels as needed
- Tape or chalk to create lines on the ground
- Tall cones

Volunteers/ Teaching Assistance

Adult volunteers or older student (grades 4-5 or 6-8) support is recommended to assist students with helmet fitting, bike fitting, and general guidance during the skill drills. One volunteer for every 5-8 students is recommended.

Involve special education teachers in lesson planning and instruction as needed for any students with differing abilities.

1. Instruct students to ride in a straight line and to remove one hand if they feel comfortable. Students should elevate their hand just above the handlebar in case they quickly need to hold on again.
 - a. Students may feel more comfortable removing their non-dominant hand.
 - b. Emphasize the importance of maintaining control and not pedaling too fast.
2. At the end of the lane, students should use both hands on the handlebars to navigate the turn and should use both hands when braking and stopping.
3. The instructor may demonstrate or have a student demonstrate.
4. Repeat until all students can demonstrate riding with one hand.

GRADES 4-5 BICYCLIST SAFETY LESSON 4A: BICYCLING SAFELY NEAR TRAFFIC

KNOWLEDGE BUILDING (30 MIN)

Overview

The instructor will explain the importance of traffic laws and the meaning of various traffic signals and signs. The students will learn how to be predictable bicyclists by using hand signals and scanning for vehicles before they turn.

Outcomes

Students will be able to:

- Identify and explain the meaning of traffic signs and signals.
- Understand safe places to ride their bike.
- Understand the rules of the road and why bicyclists need to obey them.
- Understand the importance of riding straight and with traffic.
- Recognize how to communicate effectively with other road users by learning the bike signals for a left turn, right turn, and stop.
- Demonstrate how to scan for vehicles.

Materials

- Traffic
- Bike Lane
- Shared Lane
- Traffic Light
- Appendix A: Visual Aids
- Appendix B: "Sign Match" activity page
- Appendix C: Bike Safety Relay activity and materials (optional)



LESSON PLAN

1

1. INTRODUCTION

1. Explain that this lesson brings together everything students have learned about bike safety in earlier lessons. It aims to begin teaching students safe skills for riding in traffic and operating their bike like a vehicle.

INSTRUCTOR NOTE:

Common crashes for children often occur when they are entering the roadway or crossing an intersection. Basic bicycling skills practiced in Lesson 3, such as controlled stop and scanning for traffic are essential for staying safe bicycling in the road. This lesson ties those skills to understanding rules of the road and being predictable for other vehicles on the road.

- a. There are all kinds of roads – some roads in your neighborhoods may have only a few cars and others may have a lot of fast-moving cars. There are many roads you won't be ready to ride on for a while, and that's okay.
 - b. Until you turn 12, you can still ride on the sidewalk. However, once you develop basic bicycle skills **and** have your parent/caregiver's permission, you can begin to learn additional skills to ride in the road.
 - c. There's a lot more to pay attention to in the road, so you should have an adult or older sibling with you as you practice.
 - d. Riding a bicycle in the road is a bigger responsibility. You will be riding near cars and other bicyclists. While we can't control those around us, everyone, including people walking, bicycling and driving cars, has a role to play in keeping each other safe.
 - e. Riding in the road requires an understanding of traffic laws and more advanced bicycle skills.
2. Emphasize the importance of traffic laws and the obligation of all road users to follow them.
 - a. How do drivers know where to drive? How do drivers avoid crashing into other vehicles?
 - i. Steer student's conversation towards cues on and near roads that help drivers know what to do, like lines painted on the road, signs, or signals that light up.
 - b. Traffic laws are rules set up by the government that everyone must follow when they are driving, bicycling, or walking.
 - ii. Explain the importance of traffic laws.

We have rules to tell road users where to go, when to start moving, and when to stop. No matter if you're using a car, bus, truck, or bicycle, everyone needs to follow traffic laws.

2

MAIN LEARNING ACTIVITY – RULES OF THE ROAD, TRAFFIC SIGNALS AND SIGNS



1. Ask students to recall some bicycle rules that they have learned in previous lessons.

We just talked about traffic rules that everyone needs to follow, but there are other rules you must follow, especially when you are a kid and still learning to ride a bike. What are some of those rules?

Responses should include:

- a. Ask an adult before you ride on the road, and if so, which roads are right for you.
 - b. When bicycling on the sidewalk, watch out for pedestrians. Ride as straight as you can, and go slowly when you are near other people, so you don't startle them.
 - c. Stop at driveways and alleys and look to make sure no cars are coming.
 - d. Always wear a properly fitted helmet to protect your brain in case of a crash. Remember: Eyes, Ears, Mouth. Your caregiver or older sibling can help you make sure your helmet fits if needed.
 - e. Make sure your bicycle fits and perform your Bike ABC check before you ride. A properly working bicycle is comfortable to use and less likely to crash. Your caregiver or older sibling can help you if needed.
 - f. Bright colors and reflectors can help drivers see you.
2. Remind students that as they have more bicycling experience they should begin to ride on the road for practice with an adult's permission. They should choose roads with little traffic and low speeds. Students under age 12 are still allowed to ride on the sidewalk and should be encouraged to do so on busy or high-speed roads or if they are still learning to ride.

3. Explain that there are other rules that bicyclists must follow when riding in the road.

- a. Bicycles are considered vehicles when used in the road.
- b. Some roads have special markings, such as bike lanes or sharrows/shared lanes, that give bicyclists space to ride and remind drivers that bicyclists are present.
 - i.  [Display Visual Aid: Bike lane] Bike lanes are separated spaces for bicycles on the side of the road.
 - ii.  [Display Visual Aid: Shared lane] Sharrows/shared lanes are shared by bicycles and cars.
- c. When these bike lane markings or shared lane markings are not present, bicycles are still allowed on the road, but whenever they are in the roadway bicyclists must follow the same traffic signs and signals that cars follow.
- d. Bicyclists in the road must travel in the same direction as other traffic. Cars expect bicyclists to act like other vehicles, so cars are more likely to look in the direction of on-coming traffic when they turn or exit a driveway. Also, bicycling in the same direction allows bicyclists to see the traffic lights and signs that will be facing them in the roadway.
- e. Be predictable by riding in a straight line, instead of weaving. When you ride in a straight line, drivers understand where you are going and give you the space you need, especially if they need to pass you.
- f. Explain that because bicyclists, cars, and other vehicles must obey traffic signs and signals. It's important to know what these signs and signals say.

4. Make sure that all students understand that traffic signals tell cars, trucks, buses, and bicyclists when they need to slow down, stop, and go.

Review what the three traffic signal colors mean.

 [Display Visual Aid: Traffic Light]

- a. Red / Top Light – red means stop.
- b. Yellow / Middle Light – slow down, signal is changing. Don't speed through it!
- c. Green / Bottom Light – means go, but always look first to be sure it's safe.

When the traffic signal changes, everyone in the road must obey what the color says.

If a driver or bicyclist does not do what the color says, they could crash into a car, someone bicycling, or someone walking.

5. Explain that there are also a lot of traffic signs that both drivers and bicyclists need to follow.
 - a. Introduce traffic signs and their meanings by filling out the "Sign Match" activity page (Appendix B) as a class. This activity requires students to connect images of traffic signs to their meaning.
 - i. **Stop sign:** All vehicles must come to a complete stop, scanning all directions and then proceeding when it is clear to continue.
 - ii. **One way only:** All traffic on a road must travel in the same direction.
 - iii. **Yield:** Slow down, check for traffic, and give the right-of-way to pedestrians and approaching cross traffic.
 - iv. **Crossing ahead:** A crosswalk for pedestrians is ahead. Slow down and check for pedestrians. Philadelphia law states that vehicles must give the right-of-way to pedestrians crossing.
 - v. **Do Not Enter:** Vehicles are not allowed to enter the road.
 - vi. **Speed limit:** Cars must travel this speed.
 - vii. **Bicycle sign:** This sign marks a designated area that only bicycles can ride in.



MAKE IT INCLUSIVE!

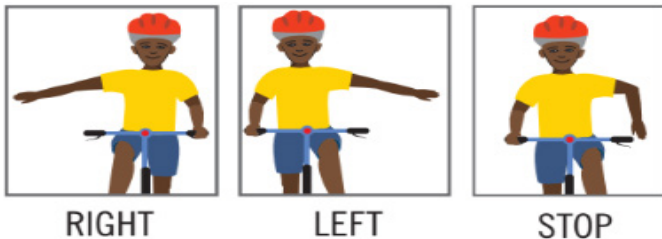
For students with color blindness, encourage students to watch for the position of the light in the signal and understand what each position means.

Provide verbal descriptions of the signs, including color, shape, and text, for students with limited vision.

3

MAIN LEARNING ACTIVITY – HAND SIGNALS

1. All road users need to communicate their planned movements to other users. Hand signals for bicyclists are similar to turn signals for cars. A bicyclist uses hand signals if they are turning, slowing, or stopping. Remember to use these signals before braking or turning.
2. Model how to use the following signals. Have students imitate your movements to practice.
 - a. **Left turn:** put your left arm out to the side.
 - b. **Right turn:** put your right arm out to your side.
 - c. **Stop:** hold left hand out to your side and bend elbow down.
3. Play a short game of Simon Says using the bicycle signals: “Simon says right turn. Simon says left turn. Simon says stop.”



MAKE IT INCLUSIVE!

Students with limited mobility may not be able to use their arms to make the proper hand signals. Accept any variation they are able to do.

4

LEARNING ACTIVITY – SCANNING FOR VEHICLES

1. Explain to students that when they bicycle it's important to be aware of their surroundings.
Drivers may not be looking for bicyclists, and even if they see you drivers may not stop. Always be aware of what drivers are doing.
2. *It is important to be aware of your surroundings at places where you or other vehicles may want to turn. It is important to always be aware of where other traffic is when you are riding in the road, and it's especially important when you're turning or approaching places where other vehicles may turn. There could be a car or another bicyclist coming from behind you or a pedestrian crossing the street, and you don't want to crash into anyone else. Or a driver may suddenly turn in front of you. If someone else is coming towards you or is in the way, wait until it is safe to turn.*
3. Demonstrate how to look over your shoulder before making a turn if you were on your bicycle. Look over both your left and right shoulder.
This is called scanning for vehicles.
4. Instruct students to practice scanning over their left and right shoulders.
 - a. Have students stand up and face away from the instructor.
 - b. The instructor should write a letter or number on a piece of paper or the whiteboard. Students should alternate looking over their left and right shoulder to the instructor and should call out the letter or number.
 - c. Students should face the back of the classroom as the instructor changes the letter or number.

INSTRUCTOR NOTE:

If time is available, students can practice their knowledge of bicycle safety and traffic rules with the Bicycle Safety Relay (Appendix C). Students compete to answer trivia questions and perform physical tasks.

6

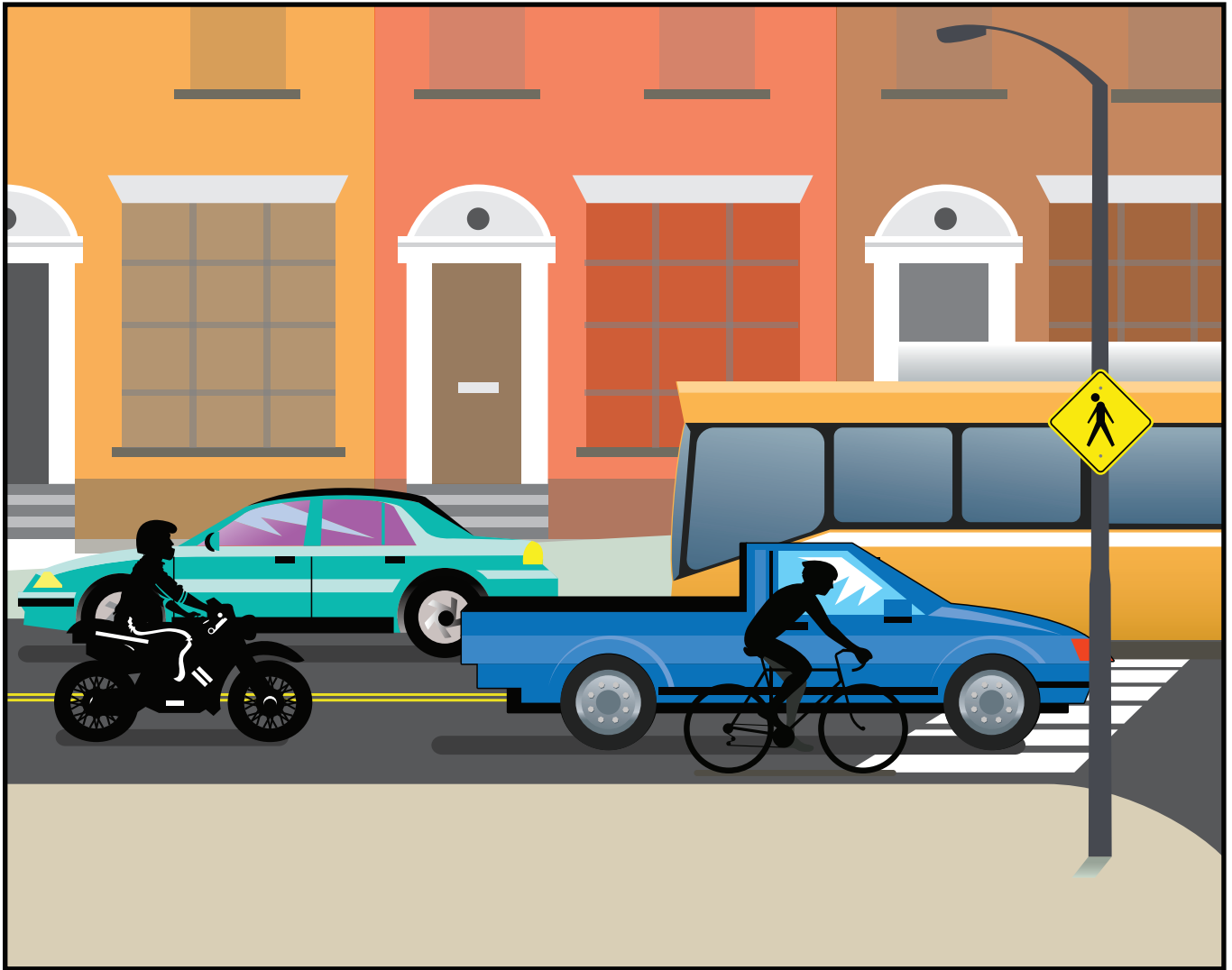
WRAP UP

1. Check for student's understanding by having students write down the answers to the following questions. Collect their answers and review to check for comprehension.
 - a. *Why are traffic laws important for bicyclists?*
 - b. *How do you bicycle safely in the road?*
 - c. *How do you bicycle safely on the sidewalk?*
 - d. *Why is it important to ride as straight as you can?*
 - e. *When should you use hand signals?*

APPENDIX A

VISUAL AIDS

Traffic



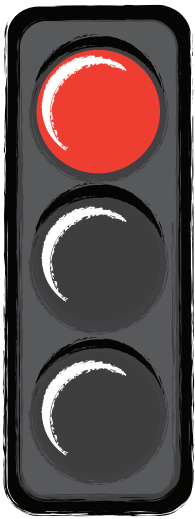
Bike Lane



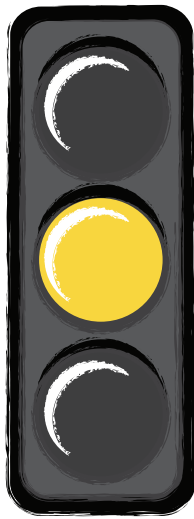
Shared Lane



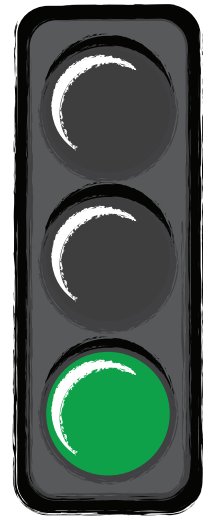
Traffic Light/Signal



Red/Top
Light



Yellow/Middle
Light



Green/Bottom
Light

APPENDIX B

SIGN MATCH ACTIVITY

SIGN MATCH

Draw a line to match the correct sign with its correct meaning.



Slow down, check for traffic, and give the right-of-way to pedestrians and approaching cross traffic.



Cars must travel this speed.



Vehicles are not allowed to enter the road.



Some roads have markings that give bicyclists space to ride.



All traffic must come to a complete _____, scan all directions, and then proceed when it is clear to continue.



A crosswalk for pedestrians is ahead. Slow down and check for pedestrians.



All traffic on a road must travel in the same direction.

APPENDIX C

SUPPLEMENTAL LEARNING ACTIVITY: BICYCLE SAFETY RELAY

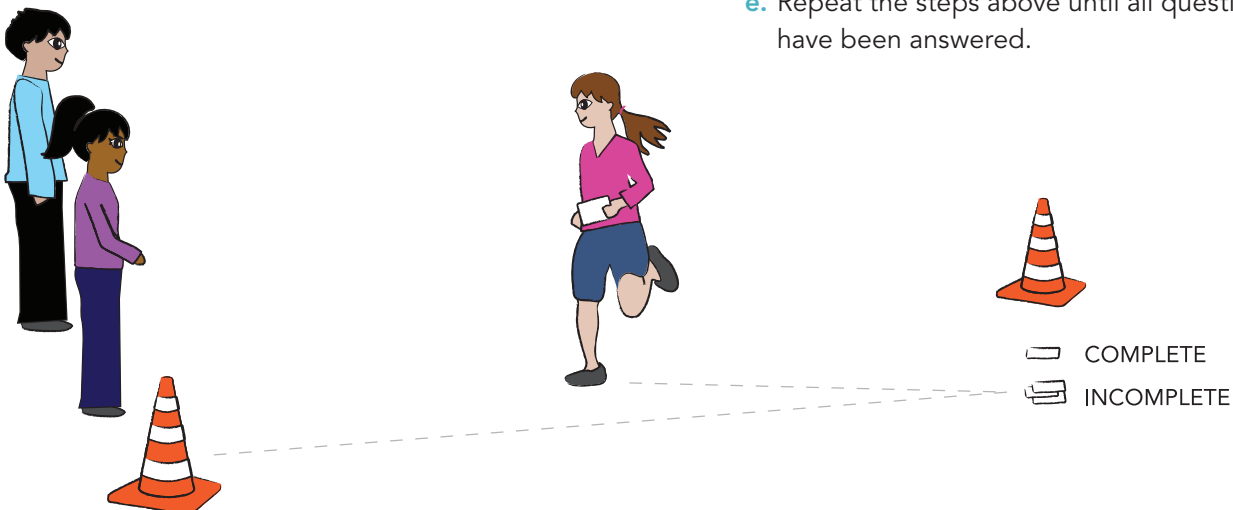
Overview

Students will demonstrate their knowledge of bicycle safety and traffic laws by competing in a group relay race.

Materials

- Cones
- Bicycle Safety Quiz Cards
- Pencils

1. Explain that students are going to demonstrate their knowledge of bicycle safety by competing in a group relay race where they will answer bicycle safety questions and perform a physical activity.
2. Divide students into groups of 5 and assign each group a different relay lane, marked by a cone at each end. See diagram below.
3. Explain the activity.
 - a. When the relay begins, the first person on each team will run to the cone at the end of their team's relay lane, retrieve a Bicycle Safety Quiz Card, and run back to the team.
 - b. Before answering the quiz question, the entire team must perform the physical activity explained on the card.
 - c. One student reads the quiz question out loud to the entire team. The team chooses an answer by writing the letter on the line at the top of the card.
 - d. The completed card is returned to the question cone by the next student in line and placed down in a separate pile. This student chooses a new card and runs back to their team to complete another round of physical activity and bike safety.
 - e. Repeat the steps above until all questions have been answered.



4. Demonstrate the physical activity tasks on the Bicycle Safety Quiz Cards.

- a. Jumping Jacks
- b. High knees
- c. Bicycle crunches
- d. Skier Jumps
- e. Shuffle and jab
- f. Mountain Climbers
- g. Lunges
- h. Toe Touches

- iii. For every answer a group gets wrong, add 10 seconds to their time.

The group with the quickest time wins.

INSTRUCTOR NOTE: Consider rewarding winning students with a small prize or incentive (optional).

MAKE IT INCLUSIVE!

- Adapt the physical activity tasks for students with different abilities. Suggest tasks that use only upper body movement for students who use mobility devices.

5. Score the answers as they are completing questions and physical activities.

a. Option 1

- i. As the students are completing questions and physical activities, the instructor should move from group to group to check for correct and incorrect answers.
- ii. Any incorrect card should be marked and placed back into the pile for the students to attempt a second time.
- iii. The group must complete the question and physical activity for each card until they get the answer correct.

b. Option 2

- i. Use a stopwatch to capture the time it takes for each group to complete all quiz cards.
- ii. When all groups have completed the relay, review the correct answers with the entire class.



answer here

1. What does A, B and C stand for in the Bicycle ABCs?

- a. Air, Bike, Chain
- b. Air, Brake, Chain
- c. Air, Brake, Cycle



answer here

2. When do bicycles have to stop at stop signs?

- a. When there are pedestrians trying to cross
- b. When there are cars passing through the intersection
- c. Bicycles should always stop at stop signs



answer here

3. Which of the following is a safe bicycling behavior?

- a. Riding in the same direction as traffic
- b. Weaving through traffic to get to the front
- c. Riding while texting



answer here

4. Using your bicycle signals is important because...

- a. It helps you stay balanced on your bike
- b. It makes you predictable to cars, pedestrians, and other bikes
- c. It is a law





PHYSICAL CHALLENGE

—

15 High Knees

PHYSICAL CHALLENGE

—

20 Jumping Jacks

PHYSICAL CHALLENGE

—

10 Skier Jumps

PHYSICAL CHALLENGE

—

10 Bicycle Crunches



answer here

5. What colors should the lights on the back and front of your bike be?

- a.** White in front, red in back
- b.** Red in front, white in back
- c.** Green in front, red in back



answer here

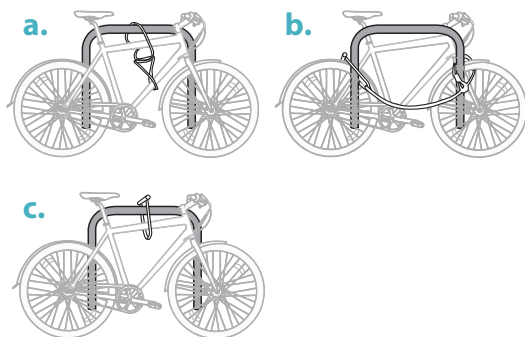
6. Which of the following is a bicycle law in Philadelphia?

- a.** Anyone 12 or older must ride in the road, not on the sidewalks
- b.** Every bike must have two wheels
- c.** Bicycles always have the right of way at an intersection



answer here

7. What picture shows the BEST way to lock up your bike?



answer here

8. What is the best way to avoid a hazard while riding?

- a.** Slow down, scan for traffic, signal, and move into the other lane when traffic is clear
- b.** Maintain speed and move into the other lane
- c.** Slow down, signal, and move into the other lane



PHYSICAL CHALLENGE



10 Shuffle and Jabs

PHYSICAL CHALLENGE



20 Mountain Climbers

(bring each leg forward 10 times)

PHYSICAL CHALLENGE



3 sets of Toe Touches

(holding each for 5 seconds)

PHYSICAL CHALLENGE



10 lunges

(5 on each leg)

GRADES 4-5 BICYCLIST SAFETY LESSON 4B: TRAFFIC SIMULATION*

SKILL BUILDING LESSON (35 MIN)

* **Bicycles and helmets are required for this skill building lesson.** Lesson 4B skill building is designed for students who already know how to ride a bicycle. The instructor may acquire bicycles with training wheels for students who are still learning to ride.

Overview

Students will navigate a course to simulate bicycling on the road. Students will practice reading and responding to traffic signs and signals and demonstrating hand signals.

Prerequisite

Students will have completed Lesson 3, Bicycling Basics, and/or demonstrate mastery of the basic bicycling skills outlined in Lesson 3.

Outcomes

Students should be able to:

- Demonstrate proper understanding of traffic signs and signals.
- Demonstrate proper use of hand signals.
- Safely interact and communicate with other cyclists.

Materials

- 20 cones
- Chalk or tape for road markings
- Whistle
- Appendix D: Visual Aids
- D.1.: Traffic signs (One Way, Stop Sign, Yield Sign, Green Traffic Light, Do Not Enter sign, Bike Lane sign)
- D.2.: Hazard signs (Fallen Rocks, Loose Gravel, Equestrian, Pedestrian, Drawbridge, Bump)

Volunteers/ Teaching Assistance

Adult volunteers or older student (grades 6-8) support is recommended to assist students with helmet fitting, bike fitting, and general guidance during the skill drills. One volunteer for every 5-8 students is recommended.

Involve special education teachers in lesson planning and instruction as needed for any students with differing abilities.



LESSON PLAN

1

SET UP

INSTRUCTOR NOTE:

The traffic simulation course may be simplified based on student skill and desired learning outcomes. Instructors may customize the course by removing signs or other elements. Print as many visual aids/traffic signs as necessary based on the size of your course.

1. The traffic simulation course can be done in a gymnasium or outdoors. The size of the bicycle course can be customized based on the available space. The course can be as long as 80-100 feet. If space is limited, the course can be shortened to 60 feet. Short sides of the course should be a minimum of 40 feet long. The lanes should be 10 feet wide.
2. The diagram and text below offer a suggestion for setting up the traffic simulation course, though many other configurations are possible depending on space, time, and number of students. The course should be sized so that students are able to hear the instructor at any point along the course. A larger course allows for more space between students. If you have sufficient space and volunteers, you may set up two courses to allow for more students to practice at once.

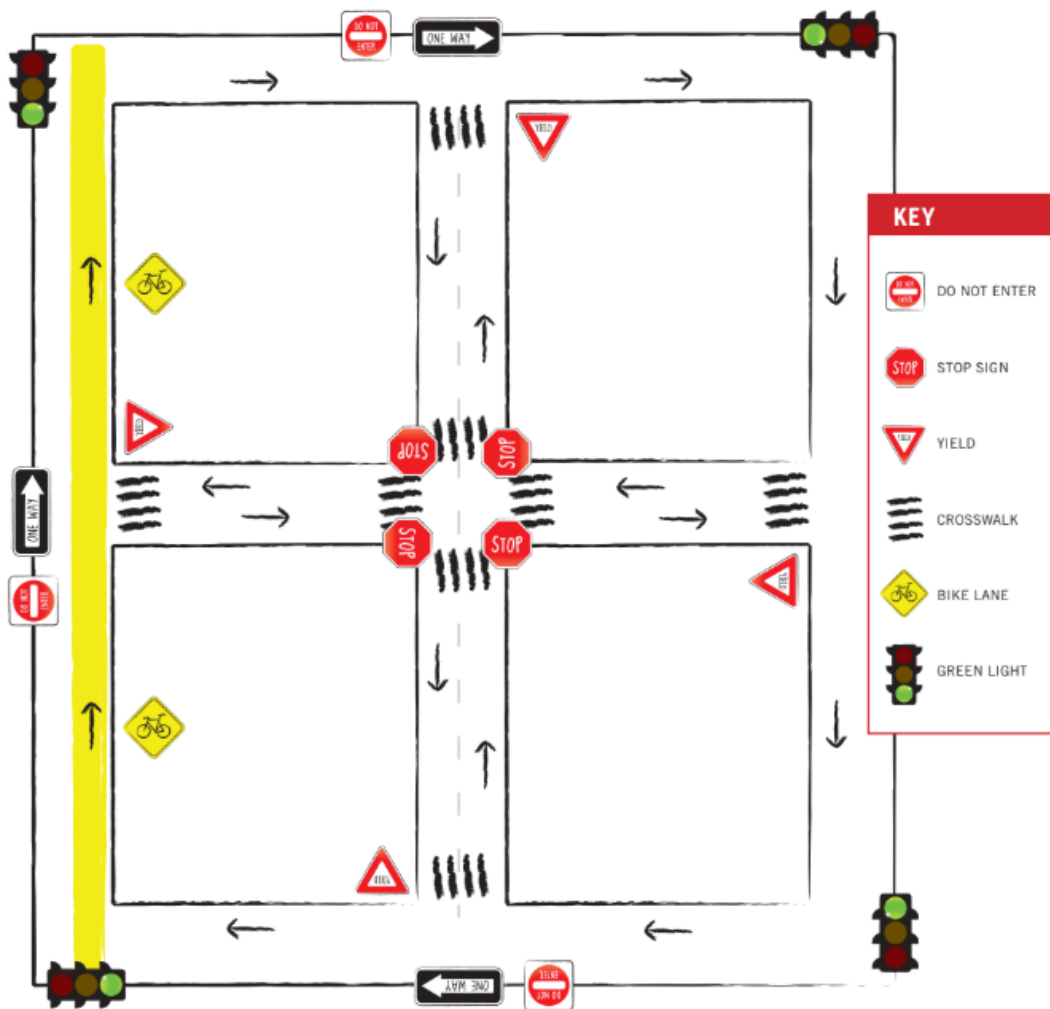
INSTRUCTOR NOTE:

This skill building lesson requires student proficiency in the basic bicycling skills covered in Lesson 3. Instructors must use discretion in determining if students are capable or if a repeat of Lesson 3 would be more constructive.

3. Mark off the road boundaries and crosswalks with chalk or tape.
4. Mark the crosswalks with chalk or tape.
5. Adhere the traffic signal and sign cards to cones and place them in the appropriate space or tape them to walls if you are in gymnasium.
6. Adhere the hazard cards to cones and set to the side to be used after students are familiar with the course.

INSTRUCTOR NOTE:

Do not use chairs or other bulky objects in place of cones as they will create a safety hazard for students bicycling.



2

INTRODUCTION

1. Instruct students to put on helmets and to check that it fits with the Eyes, Ears, Mouth method.
2. Bike ABCs
 - a. Ask students what the A, B, and C stand for. Have students check their air, brakes, and chain, and to raise their hand if anything is wrong with their bicycle.
3. Explain that this activity is to practice behaving like any vehicle in the road and following the traffic signals and signs they have learned. Students also will practice skills for riding safely in the street including continuous scanning and using hand signals.

3

DEMO

1. Explain the course set up by walking or riding a bicycle through it as students watch. Reiterate the meaning of the signs and demonstrate proper behavior.
2. Have students walk through the course without their bicycle to demonstrate an understanding of where to stop, where to practice hand signals, etc.
3. Remind students to use the basic skills they learned in Lesson 3, including balancing, pedaling braking, riding straight and turning. This is a good time to remind students when they ride through the course to practice staying in control of their bicycles.

4

DRILL

1. Depending on the size of the traffic simulation course, split students into groups to use the course in phases. Instruct students to enter the course and follow the signals or signs.
2. Instruct students to keep a safe distance from each other. Have students imagine two bicycles between themselves and the bicyclist in front of them.
3. For the first round, instruct students to navigate the course without using hand signals, but they should be scanning for vehicles, other bicyclists and pedestrians.
4. For the second round, if students are comfortable and able to control the bicycle when taking one hand off the handlebars, encourage students to use hand signals when turning or stopping. Students who are not comfortable with the hand signals may also say "stopping" out loud to alert their peers to their pending actions.

INSTRUCTOR NOTE:

If students are navigating the course with ease, set up hazards around the course. Use the visual aids to tape "hazards" (potholes, etc.) to the course. Instruct students to use their turning skills to weave around the hazard.

5

WRAP-UP

1. Remind students of the importance of being aware of your surroundings when bicycling in traffic. Once students master the basic skills of riding straight, turning, scanning, etc., it will be easier to pay attention to multiple things on the sidewalk or road.
2. Optional wrap up: Discuss student's experience with the traffic simulation. Gather students and ask the following questions:
 - a. *What skills do you need to safely bicycle in the road?*
 - iv. Knowledge of the meaning of traffic signs and signals
 - v. Riding straight
 - vi. Scanning for cars, bicyclists or pedestrians
 - vii. Using hand signals
 - b. *What skill do you need to practice more?*
 - c. *Why is it important for bicyclists to obey all traffic signals and signs?*
 - d. *How do bicyclists behave at a four way stop?*
 - e. *What do bicyclists do at a yield sign?*

APPENDIX D.1

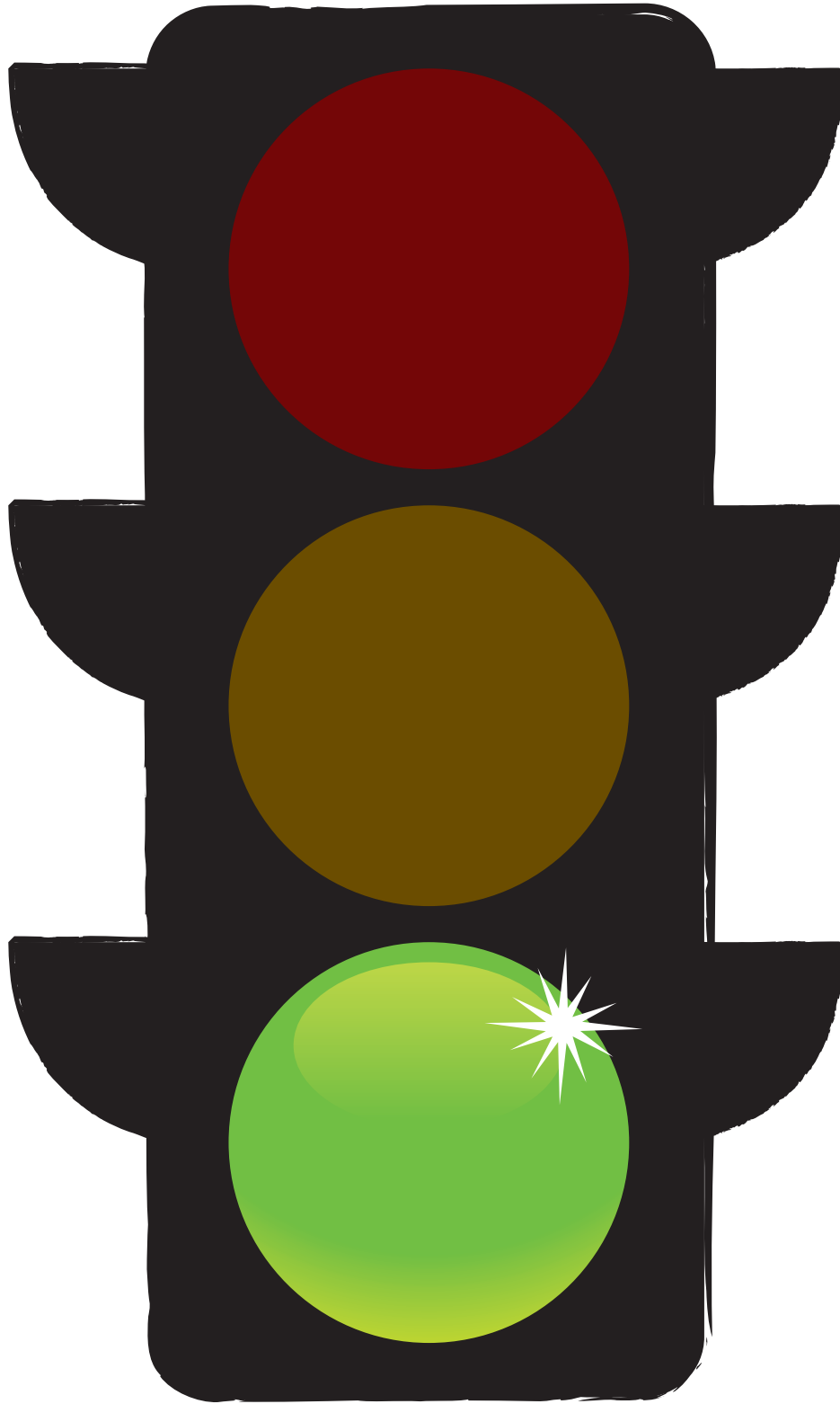
VISUAL AIDS













APPENDIX D.2

VISUAL AIDS











