

BIKE DRIVER'S ED







Contents

INTRODUCTION

A: CORE CURRICULUM

- 1. Use Your Head: Wear a Helmet
- 2. Rules of the Road

B: OPTIONAL ACTIVITIES

1. Why Should I Wear a Helmet?

D: STUDENT ACTIVITY BOOK/ TRAFFIC SAFETY ASSESSMENT

- 1. Bike Safety Pre-test
- 2. Learn the Names of Bike Parts
- 3. What Do These Signs Mean?
- 4. Traffic Signs
- 5. Sign Matching Activity
- 6. Traffic Vocabulary Matching Activity
- 7. Whose Turn Is It?

E: TEACHER'S GUIDE: ANSWER SHEETS

- 1. Bike Safety Pre-test
- 2. Learn the Names of Bike Parts
- 3. What Do These Signs Mean?
- 4. Traffic Signs
- 5. Sign Matching Activity
- 6. Traffic Vocabulary Matching Activity
- 7. Whose Turn Is It?

F: Bicycle Laws

Disclaimer

A: CORE CURRICULUM

- 1. Use Your Head: Wear a Helmet
- 2.Rules of the Road



OBJECTIVES

- O Show students how to adjust a helmet for proper fit.
- Teach students why wearing a helmet is important.

NECESSARY RESOURCES

A bicycle helmet for each student

WEARING A BICYCLE HELMET

Discussion

Many cyclists do not wear helmets for a variety of reasons. Ask students:

- O Do they own a helmet?
- Do they wear a helmet every time they ride? Why or why not?
- What can happen if they don't wear a helmet?
- What's it like to have a head injury?



ARE STUDENTS GIVING YOU ARGUMENTS ABOUT WHY THEY DON'T NEED TO WEAR A HELMET?

See unit B2, Why Should I Wear a Helmet?, for activities to help them understand why it's important.

- Wearing a helmet is part of the sport, just as in football, hockey, and baseball.
- New York state law requires that riders under the age of 16 wear a bicycle helmet. New Jersey law requires helmets for riders under 17.
- Studies show that wearing a helmet can prevent about 85% of head injuries that result from bike crashes.

Helmet Rules

- Wear a helmet every time you ride.
- Wear a helmet with a CPSC, ANSI, ASTM, or Snell certification label on the inside. (Have students find this label inside their helmets.)
- Replace your helmet if it is damaged or involved in a crash.



TEACHER'S NOTE:

- No helmet, no riding. Make this a basic rule of your program.
- You will probably have to occasionally readjust helmets. Make checking the adjustments part of each pre-ride check.
- Sharing helmets may be against local health regulations and may spread lice. If your students will be sharing helmets, use shower caps or surgical caps under them, or ask your school nurse for advice. Avoid spraying helmets with disinfectant that may erode helmet materials.
- For a video showing how to fit a helmet, visit http://bjsmith.wordpress.com/2008/12/13/video-shows-how-bike-helmet-should-fit-to-really-protect-you-and-your-kids/.



WEARING A BICYCLE HELMET continued

Helmet Fitting

Take students through each of the following steps.

Does the Helmet Fit the Head?

- The inside of the helmet should rest on the crown of the head. The bottom outside edges should be just above the ears.
- With the helmet resting on the head, the students should shake their heads left and right in the "no" motion. If the helmet wobbles, they should make the following adjustments, depending on the helmet.
 - Universal fit: Adjust the dial-fit wheel in the back so the helmet grips the student's head comfortably, or squeeze the back adjuster to push the pieces together for a comfortable fit.
 - Sized helmets: If the helmet is much too big, try a smaller helmet. If it's just a little loose, use thicker sizing pads. These are usually included with this type of helmet. If it is a little snug, try thinner pads.



Are the Side Straps Adjusted Correctly?

- The front of the helmet should cover the forehead. The student should be able to fit two fingers between his or her eyebrows and the helmet. If the forehead is exposed, or the helmet hangs too low over the eyes, this is a problem with the side straps that determine the tilt of the helmet.
- The side buckles hold the straps that adjust the forward and backward tilt of the helmet. These side buckles should sit just below the earlobes, forming the side straps into a "V." Students should make the following adjustments, depending on the helmet.
 - Tilt back? The rear side straps are too tight and the front side straps are too loose.
 - Too low over the eyes? The front side straps are too tight, and the rear side straps are too loose.





WEARING A BICYCLE HELMET continued

Are the Chin Straps Too Tight or Too Loose?

- The various straps should hold the helmet snugly on the student's head without choking or causing pain. If the helmet can be pulled up when buckled under the chin, the straps are too loose.
- When the chin straps are adjusted properly, the child should be able to put 1-2 fingers between the strap and his or her chin; or, with the helmet buckled, the helmet should pull down slightly when the student opens his or her mouth.





TEACHER'S NOTE: This is a hands-on activity. The students should fit their own helmets and adjust the straps, following your instructions. You should try to avoid adjusting the helmets for the students. Universal fit helmets are easier to fit than helmets that come in different sizes.

A: CORE CURRICULUM



WEARING A BICYCLE HELMET continued



TIP: Looking for free or low-cost helmets?

- In New York City, request them from the Department of Transportation by calling 311.
- Contact Bell Sports at 800 494 4543 x7260.
- www.prorider.com offers helmets at a low cost for organizations.



VOCABULARY:

Buckle Cranium Polystyrene Concussion Impact Vent

FUN FACT: Marshall "Major" Taylor was the first African American cyclist to win a national championship and a world championship in cycling. He won the world sprint championship in 1899 and the national sprint championship the following year. He set several world records during his career and became one of the richest athletes in the country.

Beating the time clock wasn't Major Taylor's only challenge. He had to struggle against deeply held racial prejudice. Many people in the country believed that blacks were inferior to whites, and laws prevented African Americans from participating equally in many aspects of society. By repeatedly winning bike races, Taylor disproved these theories of racial inferiority. For that reason, many whites and some biking organizations did not want to see him compete. But other organizers wanted him to race, because large crowds—many of them African American spectators—paid to be part of the excitement of watching a black man competing against whites.

When Taylor was allowed to race, white cyclists sometimes collaborated to prevent him from winning by deliberately crashing into him or assaulting him. Still, he frequently won, and at the height of his career he was practically unstoppable. Newspapers started calling him the Worcester Whirlwind, after the town in Massachusetts where he lived.

Taylor was an Indiana native and lived in Massachusetts for much of his adult life, but he has a connection to New York City. His first professional competition was a "Madison," a race held in Madison Square Garden that went on continuously for six days, with cyclists taking very little time to eat or sleep. Taylor slept one hour for every eight hours he raced and completed 1,732 miles in the six days. He finished in seventh place. In his autobiography, he wrote that he was so exhausted he was hallucinating, imagining that there was a man on the track with a pistol trying to kill him. After that grueling experience, Taylor spent the rest of his professional cycling career in short sprint races rather than endurance events.

It's important to note that cycling opened doors for Major Taylor. Some white cyclists and race organizers respected Taylor's strength, skill, and intelligence on a bicycle and befriended him. Taylor traveled the world, racing throughout Europe and in Australia. Today, there are cycling clubs named after Major Taylor all over the country, and at least three biographies have written about him. He is enshrined in the U.S. Bicycling Hall of Fame.

A: CORE CURRICULUM



3. If the Bike Fits, Ride It

FUN FACT: Nineteenth-century suffragists and early leaders of the American women's movement believed that the bicycle was a vehicle for the emancipation of women. At the time, women lacked the right to vote and many other basic rights of citizenship, such as choosing to wear whatever they wanted to and freedom of travel.

The bicycle was indeed a revolutionary vehicle because it brought mobility to the masses. Owning a horse and buggy was expensive, so most people had to simply walk everywhere. But many working-class people could afford a bicycle, and bicycles made it easy for women to travel away from the confinement of home.

Elizabeth Cady Stanton, who lived in Johnstown, New York, wrote an article titled "Shall Women Ride the Bicycle?" Susan B. Anthony of Rochester, New York, wrote, "I think [bicycling] has done more to emancipate women than anything else in the world. . . . It gives a woman a feeling of freedom and self-reliance. . . . The moment she takes her seat she knows she can't get into harm unless she gets off her bicycle, and away she goes, the picture of free, untrammeled womanhood."

Frances Willard, born in Churchville, New York, was the leader of the Women's Christian Temperance Union and wrote a book titled A *Wheel Within a Wheel: How I Learned to Ride the Bicycle*, which encouraged women to master machinery and to master their own lives. It became a best-seller.

Finally, Amelia Bloomer, born in Cortlandt County, New York, defended and advocated a type of baggy pants for women that were practical for bicycle riding. (Although she didn't invent them, the pants came to be known as bloomers.)

Today, we take it for granted that women and girls can ride bicycles and wear pants. But more than 100 years ago, women who chose to wear unrestrictive clothing and ride bicycles anywhere they wanted were controversial, and women had to fight to exercise these basic freedoms.

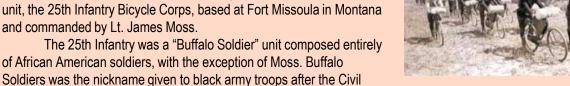


4. Bike Handling Skills Assessment

TEACHING OPPORTUNITY: SCIENCE

What makes a bicycle stay upright while it's in motion? Have your students research the question and write a one- or two-page paper using key terms describing the mechanics and physics of balancing a bike. A good place to start is the Exploratorium's Science of Cycling website: www.exploratorium.edu/cycling.

FUN FACT: In 1896, the U.S. Army wanted to test the bicycle as an instrument of war. Bicycles had certain advantages: they were quiet, they could move armies faster than marching, and unlike horses, they didn't have to be fed. The army formed an experimental unit, the 25th Infantry Bicycle Corps, based at Fort Missoula in Montana and commanded by Lt. James Moss.



War. The name, a sign of respect, came from Native American tribes who often fought these African American soldiers and admired their courage and endurance. And many of the soldiers in the West were African Americans, because the army provided one of the few opportunities available to blacks after the war.

At first, Lt. Moss tested the 25th Infantry in local rides, including one 126-mile trip lasting four days. Another 16-day trip covered 790 miles. The soldiers were equipped with bikes made by Spalding, the company that manufactured bicycles until about 20 years ago and still makes other sporting equipment. Each bike, loaded with the soldier's equipment (tent, sleeping gear, clothes, food, rifle, and ammunition), weighed 76 pounds. The wheels had wooden rims with tires glued to them, and there was only one gear. They broke down frequently.

In 1897, the 25th Infantry embarked on its greatest adventure, a 1,900-mile trip from Fort Missoula to St. Louis, Missouri. Much of the journey crossed areas that had only recently become states and had no roads. The trip took 36 days, and the unit covered the distance twice as fast as horse cavalry or marching infantry could have and at one-third the cost.

Nonetheless, the bicycle never did catch on with the U.S. Army. It was a different story in Europe and in Asia, where the Japanese used bicycles with some success in World War II against the British, and the Vietnamese successfully used bikes to move supplies through the jungle during the Vietnam War. Switzerland disbanded the world's last military bike unit in 2001 after 110 years.



5. Starting and Stopping

FUN FACT: Annie Cohen Kopchovsky's bicycle trip around the world in 1894-95 started as a bet. 10 years earlier, Thomas Stevens had become the first man to ride around the world. Now two wealthy Boston men were claiming that a woman could not do the same.

It's not clear how Kopchovsky—a 5'3", 100-pound Jewish mother of three small children—got involved. She was given some conditions: she had to start the journey with no money and ask for no help along the way, and she had to complete it in 15 months, less than half the 32 months it had taken Stevens to circumnavigate the globe. She had to earn \$5,000 more than her expenses on the trip, and to prove she had been there, she had to get the signatures of American consuls in cities around the world. Annie immediately earned \$100 from the Londonderry Springwater Company for changing her last name as a promotion and hanging an advertising placard on her Columbia bicycle.



She abandoned her first attempt at the feat in Chicago in September 1894, deciding she could not cross the Great Plains and the West in the middle of winter. She bought a much lighter Sterling bicycle and started again the following year.

Londonderry completed the trip in 15 months and collected the \$10,000 prize. Her great-grandnephew, Peter Zheutlin, published a book about her adventures in 2008.



7. Rules of the Road

OBJECTIVES

- Cyclists will understand why there are traffic laws.
- Cyclists will learn the major rules and traffic laws that apply to them.

WRITTEN ACTIVITIES

Grades 4, 5, 6

- E1, Bike Safety Pre-test
- E5, Sign Matching Activity
- E6, Traffic Vocabulary Matching Activity
- E7, Whose Turn Is It?

Grades 10, 11, 12

- E1, Bike Safety Pre-test
- E3, What Do These Sign Mean?
- E4, Traffic Signs
- E7, Whose Turn is it?

Grades 7, 8, 9

- E1, Bike Safety Pre-test
- E3, What Do These Signs Mean?
- E4, Traffic Signs
- E7. Whose turn Is It?

FUN FACT: Did you know that the first traffic law that made it legal for cyclists to ride on the streets was passed in New York state? Or that the nation's first bike path was created in Brooklyn along Ocean Parkway? Both of these biking firsts are still around!

In the 1880s, street traffic was chaotic. Automobiles weren't yet common, and traffic was a mixture of pedestrians, horse-drawn vehicles, electric trolleys, handcarts, and a newcomer to the scene—the bicycle. Bicycles were the fastest, most maneuverable vehicle in the mix, and that caused some problems. In New York, as in most cities,



Ocean Parkway Bike Path, Brooklyn, 1896.

fast-moving cyclists—the newspapers called them "scorchers"—angered people by riding on sidewalks, cutting in front of horses, knocking down pedestrians, and causing many crashes. On May 30, 1896, a collision between a bicycle and an electric automobile became the first reported car crash resulting in an injury (to the woman riding the bicycle) and the first one resulting in an arrest (of the car's driver). On that day alone, numerous other bike accidents and injuries were reported in the city.

Many angry people called for bicycles to be banned from the streets. New York decided that instead of banning the increasingly popular bicycle, it would be better to apply traffic laws to bicyclists. In 1887, the state legislature passed a law that treated bicycles the same as carriages, and people riding bicycles were given the same rights and duties as people driving horse-drawn carriages. It was the first law that gave bicycles the same treatment as other vehicles, and all other state traffic laws have been patterned on this concept.

Ocean Parkway opened as a bike path in July 1894. Stretching five miles from Prospect Park to the beaches at Coney Island, it was a wide, grand promenade dedicated to cyclists and pedestrians. In succeeding decades, much of the parkway was converted to automobile use, and in 1950, the northernmost half-mile was demolished to build the Prospect Expressway. In 1975, Ocean Parkway was designated a historic landmark. A bike path is still there.

A: CORE CURRICULUM



7. Rules of the Road

DISCUSSION OR WRITTEN ACTIVITY

You may not think recreational cycling is a game or a sport. It's not competitive, and it doesn't seem to have rules like other sports do. Or does it? Can you think of any rules for recreational cyclists?

- The rules for recreational cyclists are what are called the "rules of the road," that is, state and local traffic laws. Unlike sports that have specific penalties for breaking the rules, what might happen if you break the rules of the road?
- After reviewing the New York or New Jersey traffic laws in section F, write a one- to two-page paper about what you believe are the five most important rules of the road for cyclists, and why.
- Write a one- to two-page essay on the following sentence: Cyclists fare best when they act and are treated as drivers of vehicles.

1. Why Should I Wear a Helmet?





- Cyclists will experience what brain damage is like.
- Cyclists will understand how a helmet protects fragile skulls.

TEACHER'S NOTE: Students may offer many reasons for not wearing a helmet while cycling. Excuses often reflect fears about their appearance ("Helmets look geeky," "Helmets are for babies," "They mess up my hair," "No one on my block wears a helmet"), as well as the belief that they will never have an accident ("I know how to ride a bike," "If I'm about to crash into a car, I'll just jump out of the way"). The statistics do not support these arguments. Some 83% of all bike crashes do not involve a motor vehicle according to the League of American Bicyclists, and a New York City Department of Health study showed that 97% of cyclists who had fatal crashes were not wearing a helmet.

Teaching about helmets helps students develop a less self-conscious and more positive, practical attitude toward wearing them. It's important to treat helmets as part of the sport, and to compare cycling to other sports where the use of helmets and other safety gear is normal and expected.



If students have shown resistance to wearing a helmet, the following activities will reinforce the importance of doing so.

FUN FACT: The one-minute mile was a goal that cyclists had been inching toward when **Charles Murphy**, with the help of the Long Island Railroad, achieved it on June 30, 1899.

Murphy, a professional racing cyclist, had been bragging that no train could outpace a cyclist as long as the bike was equipped with a high-enough gear to sustain a speed of 60 mph. But Murphy had a trick up his sleeve: he knew that if he could stay right behind the train, it would pull him along in a pocket of calm air. Cyclists today call this "drafting."

A public relations official for the Long Island Railroad saw an opportunity to prove to the public that the railroad wasn't as slow as everyone believed. The railroad constructed a special wooden track on a stretch between Farmingdale and Babylon, and after weeks of training, the sprint was on. Murphy drafted closely behind the train, even catching up to it and striking the rear car six times. Dust, cinders, and gravel were flying into his face. It was a very dangerous feat, and at the end, he was nearly killed when he almost ran out of wooden track between the rails. People on the rear car grabbed Murphy and pulled him aboard.

He had done it, covering one mile in 57.8 seconds, which earned him the nickname "Mile-a-Minute Murphy." Murphy later became a New York City police officer.





ACTIVITY A: DO YOU WEAR A HELMET?

Necessary Resources

- Pens or pencils
- Student workbook or copies of Do You Wear a Bike Helmet questionnaire (page B2-5)

Instructions

Have the students fill out the Do You Wear a Bike Helmet questionnaire. To encourage honest answers, tell them they should not write their names on it. Collect the questionnaires and study the types of answers. Discuss the responses and counter-responses with the students.

Typical responses Helmets mess up my hair.	Ask students for possible solutions or counter-responses Carry a comb or brush to use after you take off your helmet.
Helmets look stupid.	Most passersby won't know you and won't care that you're wearing a helmet.
	Get a helmet that you like and make sure it's adjusted properly on your head.
	Show students pictures of cyclists with head or face injuries resulting from bike crashes while not wearing a helmet.
	Do the "brain damage" exercise below. (Activity B)
	Your family and friends won't think you look stupid for trying to protect yourself and be safe.
I'm a good cyclist and don't need a helmet.	All competitive bike events require participants to wear helmets. Even professional racers must use helmets.
I'll just ride on the sidewalk, not in the street.	83% of all bike accidents don't involve a collision with a motor vehicle. (Source: League of American Bicyclists)
No one in my neighborhood wears a helmet.	Discuss peer pressure. Making the same mistake everyone else is making will not prevent a head injury.
It won't happen to me.	Discuss students' dreams for their future. How might a head injury prevent them from reaching those goals? Have students read about people who were saved by their helmets (www.helmets.org/crashes.htm) and people who were not wearing helmets when they crashed (www.helmets.org/crashmor.htm).

2. Why Should I Wear a Helmet?

ACTIVITY B: BRAIN DAMAGE EXERCISE

Necessary Resources

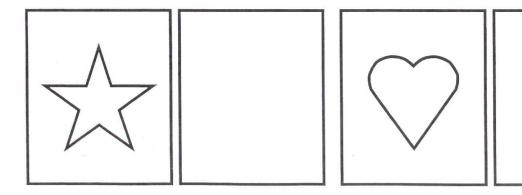
- Hand-held mirror for each student
- Pencils or pens
- Student workbook or copies of mirror exercises, below

Instructions

Ask students what they think having brain damage is like. Have them perform the mirror exercises below. These exercises approximate the difficulties someone with brain damage might have performing even simple tasks.

Looking only at the reflection of	the mirror, write you the paper.	ir name in the bo	x below. Do no	ot look at the pape	er, only

Looking only at the mirror, recreate the two shapes.





ACTIVITY C: WHAT DIFFERENCE DOES A HELMET MAKE?

Necessary Resources

- An egg for each student
- Styrofoam cups and paper napkins for half the students
- Small sandwich bags for half the students
- Newspapers

Instructions

- Distribute eggs and newspapers to all students. Have them place the newspapers on the floor in front of them.
- Give cups and napkins to half the students. Ask them to wrap the napkin around their egg and place it inside the cup.
- Have the other students place their egg in a sandwich bag, seal it.
- Have both groups drop their eggs onto the newspaper. Compare the results. Explain that bike helmets are made of the same material as the Styrofoam cups, although stronger and more compressed.
- Alternative drop test: Use a bike helmet with a melon strapped into it, and a helmetless melon.



Do You Wear a Bike Helmet?

1. Do you own a bike helmet?

2. Do you wear a bike helmet every time you ride? Yes No

If the answer to 1 or 2 is no, please answer 3.

3. List all the reasons you don't wear a bike helmet in the space below.

Do You Wear a Bike Helmet?

1. Do you own a bike helmet?

2. Do you wear a bike helmet every time you ride? Yes No

If the answer to 1 or 2 is no, please answer 3.

3. List all the reasons you don't wear a bike helmet in the space below.



3. The Bike Parts Race

FUN FACT: Bike messengers can be found in most major cities around the world. They are cyclists who are paid to deliver small packages quickly through busy, crowded streets. It's a hard, sometimes dangerous job, done in almost any kind of weather, and it doesn't pay very well.

Nelson Vails was a New York City bike messenger who rose from humble origins and seized his opportunity for a moment of glory. And as with Major Taylor (see Fun Fact, page A1-3), cycling provided the opportunity.

Vails was one of 10 children in a Harlem family. His dad was a janitor, and his mother was a nurse. By the time he was a teenager, Vails had caught the bike bug. He frequently raced at the Kissena Velodrome in Queens, New York City's only bike racing track.

As a young man of 19, Vails needed a job, so he became a bike messenger. Besides riding eight to 10 hours a day, he trained by riding 40 miles before work every day, and he also rode on weekends. His messenger nickname was "Cheetah," the fastest cat in the jungle.

In 1980, he was invited to join a local bike racing team after he beat their fastest riders in a track race. In 1982, he made the U.S. cycling team, and he won a gold medal in the 1983 Pan Am games. But then came disappointment. He barely missed making the U.S. Olympic cycling team when he came in second to another American racer, Mark Gorski. Under the rules then, only one racer from each country could compete in the 1,000-meter sprint, which was Vails's specialty.

Then international politics intervened. The Soviet Union and its allies in Eastern Europe boycotted the 1984 Los Angeles Olympics, which opened up more spots in bike racing. Nelson Vails was back on the team, and like a bike messenger seeing an opening in dense traffic, he took advantage of his second chance. U.S. Olympic cyclists had not won a single medal in 72 years. Competing against the best from Europe, Japan, and Latin America, the U.S. team won nine medals, including four gold.

Nelson Vails won one of those medals, a silver in the 1,000-meter match sprint, coming in second again to Mark Gorski. The next time Vails rode up a street in Manhattan, it was very slowly along the Broadway's Canyon of Heroes, as confetti fell from the skyscrapers on him and his fellow American Olympians.

- 1. Bike Safety Pre-test
- 2. Learn the Names of Bike Parts
- 3. What Do These Signs Mean?
- 4. Traffic Signs
- 5. Sign Matching Activity
- 6. Traffic Vocabulary Matching Activity
- 7. Whose Turn Is It?



1. Bike Safety Pre-test

Name:_	Date:
Answer	either True or False.
	1. You should ride your bike on the left side of the street so you can see the cars coming at you.
	_2. Traffic laws are made for bicyclists as well as car drivers.
	3. Riding at night without a white headlight or red rear reflector is unsafe.
	4. It is safe for two people to ride on a bike if one is sitting on the handlebars.
	5. If you can't see what's coming at a cross street when you are stopped at the intersection, you should move out closer to the intersection and look again.
	6. A bike in poor condition is safe to ride if you are a skilled cyclist.
	7. The proper way to make a left turn is to cut the corner sharply and quickly.
	8. It's safe to listen to music on headphones while riding a bike.
	_9. It's better to swerve to the left than to the right to avoid rocks or holes in the road ahead of you.
	10. Riding from a driveway out into the street without looking for traffic is the most common cause of cycling deaths for children 6-12 years old.
	11. When cycling with a friend, always ride side by side.
	12. You should look straight ahead when crossing an intersection.
	13. The best way to avoid riding into a car door that is opened into your path is to look inside the cars you pass, checking for people about to get out.
	14. Your handlebar should be loose so you can change riding positions.
	15. If you live in the country, you can ride on either side of the road.
	16. Blue is a good color to wear when cycling after dark.
	17. Holding on to a moving car while riding your bike is safe if you watch out for hazards.
	18. Scanning for traffic means looking for cars, bikes, and other road users.
	19. You should keep to the right while riding in the street.
	_20. You should observe all traffic signs and signals.

2. Learn the Names of Bike Parts



brake: stops the bike

brake and shift levers: squeeze one to stop the bike,

and trigger the other to change gears

cables and housing: connect the brake and shift

levers to the brakes and derailleurs

cassette (cogs): set of gears on the back wheel

chain: transfers the energy from the motion of the

pedals to the back wheel chainring: cogs on the crank

crank: holds the pedals

fork: attaches the front wheel to the bicycle frame: main body or "skeleton" of the bike front derailleur: moves the chain to different

chainrings

handlebar: where you hold on to the bicycle to steer

headset: allows you to steer smoothly, and connects

the fork to the frame

pedal: where your feet go to power the bicycle

hub: center part of a wheel

rear derailleur: moves the chain to different cogs on

the back wheel

rim: outside ring of the wheel

seat: what you sit on while riding

seat clamp: holds the seat to the seatpost seatpost: connects the seat to the bike

seatpost binder: keeps the seatpost at the height

you select

spokes: thin metal wires that attach the rim to the

hub

stem: attaches the handlebar to the fork and headset

tire: inflated, rubber part of the wheel



3. What Do These Signs Mean?

Write what these signs mean on the line below each one.

STOP		
YIELD		
ONLY		
R		
(1)		
•		
+		
1		
**		



4. Traffic Signs

What does each sign mean? What should you do or where should you be on the road when you see these signs?

11	
SLOWER TRAFFIC KEEP RIGHT	
DO NOT ENTER	
"	
ONE WAY	
RIDE WITH TRAFFIC	



5. Sign Matching Activity

Draw a line from each sign to the correct definition.

















A special lane at intersections marked only for turning.

A place where two or more roads meet each other. Most crashes happen at these locations.

Pause and wait long enough at an intersection to look for traffic in both directions, yield to any traffic, then go when nobody is coming.

This indicates who gets to go first and who has to wait if two vehicles are heading to the same space at the same time.

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

A lane at an intersection marked with arrows so you can either turn or go straight from that lane.

Traffic on a road like this goes in two opposite directions.

Two lanes of traffic are reduced to one.

6. Traffic Vocabulary Matching Activity

Draw a line from the word on the left to the correct definition.

Yield Larger, busier roads are divided into these channels using yellow or

white stripes. These help keep vehicles clearly separated.

One-way Indicates who gets to go first and who has to wait if two vehicles are

heading to the same space at the same time.

Merge Pause and wait long enough at an intersection to look for traffic in both

directions, yield to any traffic, then go when nobody is coming.

Two-way A place where two or more roads meet each other. Most crashes

happen at these locations.

Traffic Two lanes of traffic are reduced to one.

Stop A special lane at intersections marked only for turning.

Intersection A lane at an intersection marked with arrows so you can either turn or

go straight from that lane.

Lane All pedestrians, bicyclists, and motor vehicles using the road at any

time.

Turn-Only laneAll traffic on a road must go in the same direction.

Multi-direction laneTraffic on a road like this goes in two opposite directions.

7. Whose Turn Is It?

Yielding and Intersections

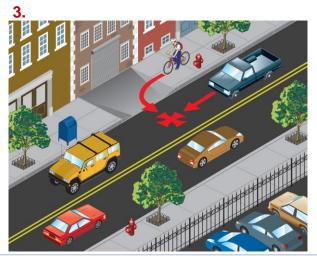
Do bicyclists always have to yield to cars? Or must car drivers always yield to cyclists? Traffic rules use a concept called "yielding" or "right of way." What that means is "who gets to go first" or "who gets to move into a space on the road first."

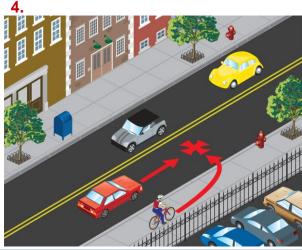
The basic rule of yielding is "first come, first served." That means if there are no stop signs or traffic lights determining who gets to go first, the person occupying a space on the road gets to use it first, and someone who wants to move into that space must wait until no one else is using it (or about to use it). Another way to understand rules of yielding is to think about whose position is changing and whose position is staying the same. Generally, if there are no traffic lights or stop signs, the person who wants to change position has to wait, while the person whose position is staying the same gets the right of way. This keeps things predictable. The person who wants to make the change on the road must wait until it's safe to do so.

Look at the following pictures. Circle the person—bicyclist or motor vehicle driver—who has to yield.



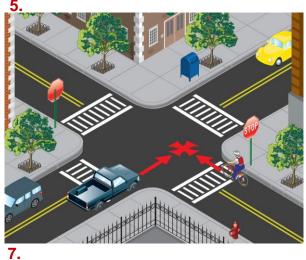




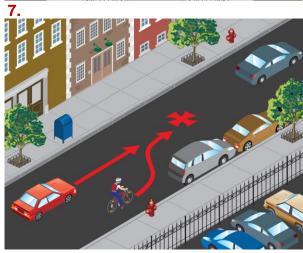


7. Whose Turn Is It?

Yielding and Intersections continued













E: TEACHER'S GUIDE Answer Sheets for Student Activity Book

- 1. Bike Safety Pre-test
- 2. Learn the Names of Bike Parts
- 3. What Do These Signs Mean?
- 4. Traffic Signs
- 5. Sign Matching Activity
- 6. Traffic Vocabulary Matching Activity
- 7. Whose Turn Is It?



1. Bike Safety Pre-test

<u>r</u>	1. You should ride your blke on the left side of the street so you can see the cars coming at you.
<u>T</u>	_2. Traffic laws are made for bicyclists as well as car drivers.
<u>T</u>	3. Riding at night without a white headlight or red rear reflector is unsafe.
<u>F</u>	4. It is safe for two people to ride on a bike if one is sitting on the handlebars.
<u>T</u>	_5. If you can't see what's coming at a cross street when you are stopped at the intersection, you should move out closer to the intersection and look again.
<u>F</u>	6. A bike in poor condition is safe to ride if you are a skilled cyclist.
<u>F</u>	7. The proper way to make a left turn is to cut the corner sharply and quickly.
<u>F</u>	8. It's safe to listen to music on headphones while riding a bike.
<u>F</u>	_9. It's better to swerve to the left than to the right to avoid rocks or holes in the road ahead of you.
<u>T</u>	10. Riding from a driveway out into the street without looking for traffic is the most common cause of cycling deaths for children 6-12 years old.
<u>F</u>	11. When cycling with a friend, always ride side by side.
<u>F</u>	12. A cyclist should only look straight ahead when crossing an intersection.
<u>T</u>	13. The best way to avoid riding into a car door that is opened into your path is to look inside the cars you pass, checking for people about to get out.
<u>F</u>	14. Your handlebar should be loose so you can change riding positions.
<u>F</u>	15. If you live in the country, you can ride on either side of the road.
<u>F</u>	16. Blue is a good color to wear when cycling after dark.
<u>F</u>	17. Holding on to a moving car while riding your bike is safe if you watch out for hazards.
<u>T</u>	18. Scanning for traffic means looking for cars, bikes, and other road users.
<u>T</u>	19. You should keep to the right while riding in the street.
т	20. You should observe all traffic signs and signals

2. Learn the Names of Bike Parts



TEACHER'S NOTE: If students don't do well on this activity, go through the diagram with them using an actual bike. Have students take turns pointing out each part and explaining what it does. After this exercise and the bike parts race, have them do the bike parts diagram again.

3. What Do These Signs Mean?



Stop, scan left-right-left for crossing traffic, and yield the right of way.



Slow down, scan for cross traffic, and let that traffic have the right of way (go first).



This lane is for turning left only.



Right turn not allowed.



Railroad tracks ahead. Slow down and scan for trains, and maneuver to cross at a right angle.



Sharp left curve (not turn) ahead.



People working/construction ahead. Slow down and use caution.



Intersection ahead. Slow down, scan for traffic, and prepare to stop.



Traffic will merge into your lane from the right.



School zone ahead. Slow down and use caution. Pedestrians have the right of way.



4. Traffic Signs



I should stay to the right and travel in the same direction as other traffic on my side.



Bikes usually travel slower than other traffic, so they should stay on the right.



I should not go into a lane that has a sign like this, because I will be riding against traffic.



The road is dividing, and I should stay to the right.



The right lane is ending. I should scan left, signal, yield to anyone already in the left lane, and move over when it is clear of other traffic.



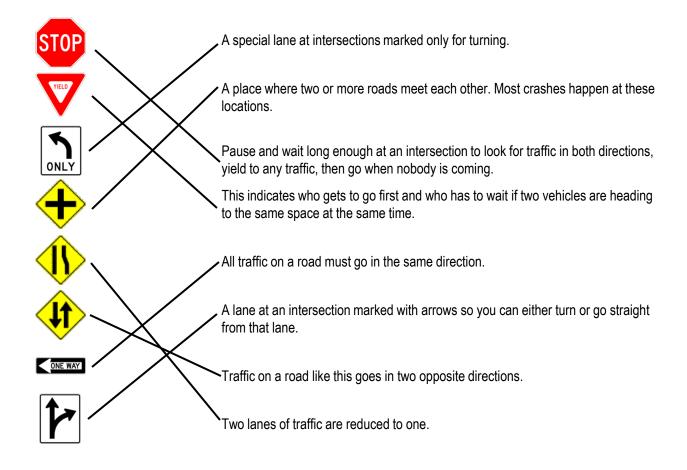
I should not go against the direction of the arrow on this sign.



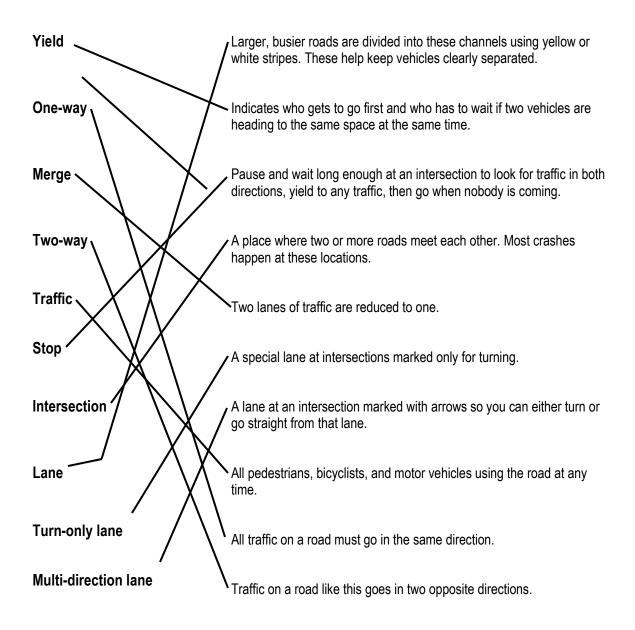
I should ride in the same direction as other traffic on my side of the road.



5. Sign Matching Activity



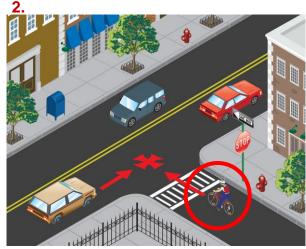
6. Traffic Vocabulary Matching Activity



7. Whose Turn Is It?

Yielding and Intersections









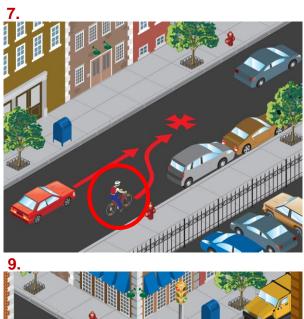


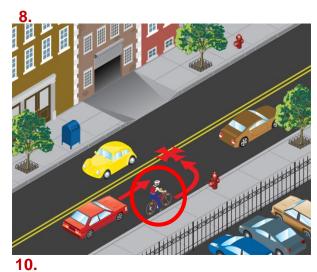


F: TEACHER'S GUIDE

7. Whose Turn Is It?

Yielding and Intersections continued









- 1. Program Report Form
- 2. Bicycle Laws



4. Bicycle Laws

NEW YORK

Definitions

- § 102: Bicycle: A bicycle is any two or three wheel human powered device (excluding children's tricycles).
- § 102a: Bicycle Lane: A bicycle lane is any part of the road designated by pavement markings for the preferential or exclusive use of bicycles.
- § 102b: Bicycle Path: A bicycle path is a path separated physically from motor vehicle traffic, but within the highway right-of-way, intended for the use of bicycles.

Bicycle Laws

- § 1231: Bicyclists have all the rights and all the obligations that drivers of **vehicles** have.
- § 1232: Only one person should ride on a bike that is designed or equipped to carry one person.
- § 1233: Bicyclists must not hold on to or attach themselves to any vehicle moving on the road.
- § 1234: a) Bicyclists must ride near the right curb or edge of the road, on a usable **shoulder**, so they don't unduly interfere with the flow of traffic, except to make a left turn or to avoid unsafe conditions. Unsafe conditions include a traffic lane that is too narrow for a cyclist to share side by side with another vehicle.
- b) Cyclists may ride two abreast, but not more than two side by side; if they are on a bike path, cyclists may ride more than two side by side if there is space, but must make space for other bike path users by riding single file.
- c) Cyclists entering the road from a driveway, alley, or off the curb must come to a complete stop before entering the road.
- § 1235: Cyclists should not carry any objects that obstruct their vision or prevent at least one hand from being on the handlebar.
- § 1236: a) Bicyclists riding at night must have a white headlight and a red taillight.
 - b) Bicycles must have a bell or horn that can be heard 100 ft. away, but not a whistle.
 - c) Bicycles must have brakes capable of making the tires skid.
 - d) Bicycles must have reflectors if ridden at night.
- § 1237: Bicyclists must use hand signals to signal turns and stops.
- § 1238: Bicyclists under 14 years old must wear a bicycle helmet.

General

The following are laws for **vehicles** and **traffic** that bicyclists must also follow because bicycles have to follow the same laws as drivers of vehicles, or because bicycles are defined as traffic according to § 1231. These are also traffic laws that other drivers must follow when interacting with cyclists on the road.

- § 152: Traffic: Pedestrians, ridden or herded animals, vehicles, bicycles, and other conveyances using the roads for purposes of travel.
- § 153: Traffic Control Device: All signals, signs, and markings put up by public authorities to regulate, warn, and guide traffic.
- § 1110: All persons must obey directions of traffic control devices.



4. Bicycle Laws

NEW YORK continued

Driving on the Right, Overtaking and Passing

- § 1120 6(b): Vehicles travelling at slower than the speed of normal traffic must drive on the right side of the road, or as close as practicable to the right edge of the road.
- § 1122: Pass at a safe distance on the left side of slower vehicles, and don't return to the right until there's safe distance from the vehicle just passed.
- § 1123: Passing on the right is allowed when the vehicle being passed is turning left, and on one way streets with two more lines of traffic.
- § 1124: Don't pass on the left if there is oncoming traffic.
- § 1127: Drive only in the intended direction of traffic on one-way roads.
- § 1128: On roads striped with traffic lanes, vehicles should not change lanes until the driver has determined that the lane change can be made safely.
- § 1129: Don't follow another vehicle too close for safety; vehicles in caravans should leave space between them for passing vehicles to occupy such space.

Yielding and Right of Way:

- § 139: Right of Way: The right of one vehicle or pedestrian to proceed lawfully in preference to another, in situations of speed, direction, and proximity where a collision might occur.
- § 1140: Drivers entering an intersection must wait for drivers who have already entered the intersection from another direction.
- § 1141: Drivers turning left must yield to vehicles coming from the opposite direction.
- § 1142: When approaching a stop sign at an intersection, drivers must stop and yield the right of way to vehicles entering the intersection so closely as to constitute a hazard.
- § 1143: Drivers entering the roadway must yield to vehicles already on the road.
- § 1146: Drivers must exercise due care to avoid collisions with pedestrians and other vehicles on the road.
- § 1151: Pedestrians have the right of way in crosswalks and on sidewalks that cross driveways.



4. Bicycle Laws

NEW YORK continued

Turning, Signaling, Intersections

- § 1160: a)Drivers must make right turns as close as possible to the right edge of the roadway.
- b)On two-way roads, drivers must make left turns from the right side of the road closest to the center line, but to the right of the center line, and to the right of the center line on the road being entered.
 - c)On one-way roads, drivers must make left turns from the left-most lane.
- § 1163: Drivers must not make turns at intersections unless they've positioned themselves properly as specified in § 1160. No person shall make a turn unless they've given an appropriate signal.
- § 1165: Hand signals:
 - 1. Left turn: arm extended horizontally pointing left.
 - 2. Right turn: left arm extended pointing up.
 - 3. Slowing or Stopping: Left arm extended pointing downwards.
- § 1174: Driver's of vehicles meeting or overtaking a school bus must stop if the school bus has stopped to take or let off passengers, and if the bus has deployed its stop sign and flashing red lights.
- § 1182: Races are not permitted on the roads, unless race organizers have applied for a permit to the NYS Department of Transportation.
- § 1192: No person shall drive while impaired by alcohol or drugs, as defined by .08 of one percent blood alcohol level.
- § 1201: It is illegal to stop or park a vehicle on the travel portion of a roadway if there is a practicable alternative to stop or park elsewhere.
- § 1202: It is illegal to **double park** (park next to vehicles parked at the curb or edge of the road), park on the sidewalk, within an intersection or crosswalk.
- § 1214: Dooring: It is illegal to open a vehicle door in a way that interferes with movement of other traffic, and no one shall open a vehicle door on the traffic side until it is reasonably safe to do so.
- § 1219: It is illegal to throw or deposit any glass bottle, glass, nails, tacks or other objects likely to injure any person, animal, or vehicle on the roadway.
- § 1220: Littering is prohibited on roadways and adjacent public or private land.
- § 1225c: Drivers may not use hand-held cell phones.



4. Bicycle Laws

NEW JERSEY

39:1-1 Words and phrases defined

- "Right-of-way" means the privilege of the immediate use of the highway.
- "Traffic" means pedestrians, ridden or herded animals, vehicles, streetcars, and other conveyances either singly or together while using any highway for purposes of travel.
- **"Vehicle"** means every device in, upon, or by which a person or property is or may be transported upon a highway, excepting devices moved by human power or used exclusively upon stationary rails or tracks or motorized bicycles.

39:4-10. Lights and reflectors on bicycles

Every bicycle when in use at nighttime shall be equipped with a lamp on the front that shall emit a white light visible from a distance of at least 500 feet to the front, and with a lamp on the rear that shall emit a red light visible from a distance of at least 500 feet to the rear. In addition to the red lamp, a red reflector may be mounted on the rear, of a type approved by the division, that shall be visible from all distances from 50 feet to 300 feet to the rear when directly in front of lawful upper beams of head lamps on a motor vehicle.

39:4-10.1 Bicycle helmets, requirements.

1. a. A person under 17 years of age shall not operate or ride upon a bicycle as a passenger unless that person is wearing a properly fitted and fastened bicycle helmet that meets the standards of the American National Standards Institute (ANSI Z90.4 bicycle helmet standard) or the Snell Memorial Foundation's 1990 Standard for Protective Headgear for Use in Bicycling. This requirement shall apply to a person who rides upon a bicycle while in a restraining seat that is attached to the bicycle or in a trailer towed by the bicycle.

As used in this act, "bicycle" means a vehicle with two wheels propelled solely by human power and having pedals, handlebars, and a saddle-like seat. The term shall include a bicycle for two or more persons having seats and corresponding sets of pedals arranged in tandem.

39:4-11. Audible signal

No person shall operate a bicycle unless it is equipped with a bell or other device capable of giving a signal audible for a distance of at least 100 feet, except that a bicycle shall not be equipped with nor shall any person use upon a bicycle any siren or whistle.

39:4-11.1. Brake required

Every bicycle shall be equipped with a brake that will enable the operator to make the braked wheels skid on dry, level, clean pavement.



4. Bicycle Laws

NEW JERSEY BICYCLE LAWS continued

39:4-12. Position of hands and feet; carrying another person

A person propelling or riding on a bicycle shall not ride other than upon or astride a permanent and regular seat attached thereto, nor shall he ride with his feet removed from the pedals, or with both hands removed from the handlebars, nor shall he practice any trick or fancy riding in a street. No bicycle shall be used to carry more persons at one time than the number for which it is designed and equipped.

39:4-14. Hitching on vehicles prohibited

No person riding upon any bicycle, coaster, skates, sled, or toy vehicle shall attach the same or himself to any streetcar or vehicle upon a roadway, and no operator of any streetcar or vehicle shall knowingly allow any person riding upon any bicycle, coaster, skates, sled, or toy vehicle to attach the same or himself to the streetcar or vehicle.

39:4-14.1 Rights, duties of bicycle riders on roadways, exemptions.

16. a. Every person riding a bicycle upon a roadway shall be granted all of the rights and shall be subject to all of the duties applicable to the driver of a vehicle by chapter four of Title 39 of the Revised Statutes and all supplements thereto except as to those provisions thereof which by their nature can have no application.

Regulations applicable to bicycles shall apply whenever a bicycle is operated upon any highway or upon any path set aside for the exclusive use of bicycles subject to those exceptions stated herein.

b. A law enforcement officer operating a bicycle while in the performance of his duty, and who is engaged in the apprehension of violators of the law or of persons charged with, or suspected of, a violation, shall not be subject to the provisions of this section.

39:4-14.2. Keeping to right; exceptions; single file

Every person operating a bicycle upon a roadway shall ride as near to the right side of the roadway as practicable, exercising due care when passing a standing vehicle or one proceeding in the same direction, provided, however, that any person may move to the left under any of the following situations:

- (a) to make a left turn from a left-turn lane or pocket;
- (b) to avoid debris, drains, or other hazardous conditions that make it impracticable to ride at the right side of the roadway;
 - (c) to pass a slower moving vehicle;
 - (d) to occupy any available lane when traveling at the same speed as other traffic;
 - (e) to travel no more than two abreast when traffic is not impeded.



4. Bicycle Laws

NEW JERSEY BICYCLE LAWS continued

Persons riding bicycles upon a roadway may travel no more than two abreast when traffic is not impeded, but otherwise shall ride in single file except on paths or parts of roadways set aside for the exclusive use of bicycles.

39:4-14.5. Bicycle defined

As used in this act, "bicycle" means any two-wheeled vehicle having a rear drive wheel that is solely human-powered and having a seat height of 25 inches or greater when the seat is in the lowest adjustable position.

39:4-64. Highway littering ban

- a. No person shall throw or drop any bundle, object, article, or debris of any nature from a vehicle whether in motion or not when such vehicle is on a highway. The words "object, article, or debris of any nature" as used in this section shall be deemed to include a cigarette, cigar, match, or ashes, or any substance or thing in and of itself likely to cause or fuel a fire, but such inclusion shall not be deemed to in any way limit the generality of the words "object, article, or debris of any nature." Any person who violates this section shall be subject to a fine of not less than \$200 or more than \$1,000 for each offense.
- b. There shall be a rebuttable presumption that the registered owner of the vehicle, if present in the vehicle, or, in his absence, the driver of the vehicle, is presumed to be responsible for any violation of this section. if:
- (a) A bundle, object, article, or debris of any nature is thrown or dropped from the vehicle by an occupant of the vehicle;
 - (b) There are two or more occupants in the vehicle; and
 - (c) It cannot be determined which occupant of the vehicle is the violator.

39:4-82. Keeping to right

Upon all highways of sufficient width, except upon one-way streets, the driver of a vehicle shall drive it on the right half of the roadway. He shall drive a vehicle as closely as possible to the right-hand edge or curb of the roadway, unless it is impracticable to travel on that side of the roadway, and except when overtaking and passing another vehicle subject to the provisions of sections 39:4-84 and 39:4-85 of this Title.

39:4-85. Passing to left when overtaking; passing when in lines; signaling to pass; passing upon right The driver of a vehicle overtaking another vehicle proceeding in the same direction shall pass at a safe distance to the left thereof and shall not again drive to the right side of the roadway until safely clear of the overtaken vehicle. If vehicles on the roadway are moving in two or more substantially continuous lines, the provisions of this paragraph and section 39:4-87 of this Title shall not be considered as prohibiting the vehicles in one line overtaking and passing the vehicles in another line either upon the right or left, nor shall those provisions be construed to prohibit drivers overtaking and passing upon the right another vehicle that is making or about to make a left turn.



4. Bicycle Laws

NEW JERSEY BICYCLE LAWS continued

The driver of an overtaking motor vehicle not within a business or residence district shall give audible warning with his horn or other warning device before passing or attempting to pass a vehicle proceeding in the same direction.

The driver of a vehicle may overtake and pass another vehicle upon the right as provided in this section only under conditions permitting such movement in safety. In no event shall such movement be made by driving off the pavement or main-traveled portion of the roadway.

39:4-90. Right of way at intersections

The driver of a vehicle approaching an intersection shall yield the right of way to a vehicle that has entered the intersection. When two vehicles enter an intersection at the same time, the driver of the vehicle on the left shall yield the right of way to the driver of the vehicle on the right.

The driver of a vehicle within an intersection intending to turn to the left shall yield to a vehicle approaching from the opposite direction that is within the intersection or so close thereto as to constitute an immediate hazard, but the driver having so yielded, and having given a signal when and as required by law, may make the left turn; and other vehicles approaching the intersection from the opposite direction shall yield to the driver making the left turn.

39:4-96. Reckless driving; punishment

A person who drives a vehicle heedlessly, in willful or wanton disregard of the rights or safety of others, in a manner so as to endanger, or be likely to endanger, a person or property, shall be guilty of reckless driving and be punished by imprisonment in the county or municipal jail for a period of not more than 60 days, or by a fine of not less than \$50 or more than \$200, or both.

On a second or subsequent conviction he shall be punished by imprisonment for not more than three months, or by a fine of not less than \$100 or more than \$500, or both.

39:4-97. Careless driving

A person who drives a vehicle carelessly, or without due caution and circumspection, in a manner so as to endanger, or be likely to endanger, a person or property, shall be guilty of careless driving.



4. Bicycle Laws

NEW JERSEY BICYCLE LAWS continued

- (b) Left turns on two-way roadways. At any intersection where traffic is permitted to move in both directions on each roadway entering the intersection, an approach for a left turn shall be made in that portion of the right half of the roadway nearest the center line thereof and by passing to the right of such center line where it enters the intersection, and after entering the intersection the left turn shall be made so as to leave the intersection to the right of the center line of the roadway being entered. Whenever practicable the left turn shall be made in that portion of the intersection to the left of the center of the intersection.
- (c) Left turns on other than two-way roadways. At any intersection where traffic is restricted to one direction on one or more of the roadways, the driver of a vehicle intending to turn left at any such intersection shall approach the intersection in the extreme left-hand lane lawfully available to traffic moving in the direction of travel of such vehicle, and after entering the intersection the left turn shall be made so as to leave the intersection, as nearly as practicable, in the left-hand lane lawfully available to traffic moving in such direction upon the roadway being entered.

39:4-126. Signaling before starting, turning, or stopping

No person shall turn a vehicle at an intersection unless the vehicle is in proper position upon the roadway as required in section 39:4-123, or turn a vehicle to enter a private road or driveway, or otherwise turn a vehicle from a direct course or move right or left upon a roadway, or start or back a vehicle unless and until such movement can be made with safety. No person shall so turn any vehicle without giving an appropriate signal in the manner hereinafter provided in the event any other traffic may be affected by such movement.

A signal of intention to turn right or left when required shall be given continuously during not less than the last 100 feet traveled by the vehicle before turning.

No person shall stop or suddenly decrease the speed of a vehicle without first giving an appropriate signal in the manner provided herein to the driver of any vehicle immediately to the rear.

The signal herein required shall be given either by means of the hand and arm in the manner herein specified, or by an approved mechanical or electrical signal device, except that when a vehicle is so constructed or loaded as to prevent the hand and arm signal from being visible, both to front and rear, the signal shall be given by a device of a type which has been approved by the division.



4. Bicycle Laws

NEW JERSEY BICYCLE LAWS continued

When the signal is given by means of the hand and arm, the driver shall indicate his intention to stop or turn by extending the hand and arm from and beyond the left side of the vehicle in the following manner, and such signals shall indicate as follows:

- (a) Left turn.—Hand and arm extended horizontally.
- (b) Right turn.—Hand and arm extended upward.
- (c) Stop or decrease speed.—Hand and arm extended downward.

Disclaimer

Bicycling can be a healthy, positive activity, but it is not risk-free. The *Bike Driver's Ed* curriculum is intended to impart knowledge and skills to help young cyclists reduce their own risks when riding a bike. It is designed for use in an on-campus setting; it does not train or prepare teachers to lead group bike rides off campus.

Teachers should only receive and use this curriculum if they have taken a Bike Driver's Ed training workshop conducted by Bike New York. They should not pass the curriculum on to other teachers who have not taken the training workshop. Teachers are expected to establish safe teaching conditions on campus and to teach the safety skills in the curriculum and as they learned at the training workshop.

While we believe that cycling can be healthy, fun activity, it is possible for falls or other accidents to happen due to a variety of conditions. Bike New York will not be held liable for any injuries or costs related to those accidents or injuries to students whose teachers are using the *Bike Driver's Ed* curriculum.

The *Bike Driver's Ed* curriculum is the property of Bike New York and it cannot be used in any way that would infringe Bike New York's rights under any applicable law.