



Grades 4 - 6

Safe Routes



To School
with

TransOptions

Special thanks to our friends at Safe Route to Philly for use of their materials



Engaging Prior Knowledge 10 minutes

Lesson Objective: Students will demonstrate prior knowledge of biking and be able to write 4 sentences about their knowledge and opinions.

Materials

Pencil	
"Biking & Me" worksheet	
Chalkboard/Smart Board	

LESSON:

1. Activity (2 minutes)

Writing Warm Up: "Biking and Me"

Students complete four sentences explaining their opinion of biking and what motivates them to or prevents them from biking.

2. Class Discussion (8 minutes)

Biking Vocabulary:

- Ask students to share the two adjectives they used to describe biking in the first sentence of the writing warm up. Write some of them on the board.
- Encourage students to notice patterns, variations and commonalities.
- Write the words Transportation, Visible, Predictable, Responsible, and Pedestrian on the board. Have the students define each.
 - **Transportation:** The act of moving a person or thing.
 - **Visible:** Obvious to the eye; something that can be seen.
 - **Predictable:** Allowing others to know what will be your next actions.
 - **Responsible:** A feeling of duty to be respectful and watchful of others.
 - **Pedestrian:** A person traveling on foot.

Conduct a Classroom Poll:

- Ask students to raise their hand if they have access to a bike, what they like/don't about biking, etc.
- Ask students to explain their responses.
- Ask students if they feel a bike is a toy or a vehicle. Explain that NJ recognizes that a bicycle is a vehicle that has to obey all the rules that a motorist has to abide by.

Encourage:

- Ask students what would encourage them to bike more (more friends biking, bike lanes, etc)

Engage:

- Ask 1-2 students why it's good to bike (healthy, eco friendly, low cost, explore the community, etc.).

Biking and Me
Complete the sentences below to share your experience and opinion about biking.

I think biking is safe because...

I wouldn't bike because...

I would like to see more of...

One good reason to bike is...

Helmet Safety 10 minutes

Lesson Objectives: Students will be able to:

1. Discuss the reasons why people choose to wear or not wear bicycle helmets.
2. Explain how a helmet protects the brain and discuss what consequences result from a brain injury.
3. Demonstrate how a helmet correctly fits onto a head.

Materials

Video: "Bike Safe, Bike Smart"	
Brain Chart Poster	
Chalkboard/Smart Board	

LESSON:

1. Activity (3 minutes)

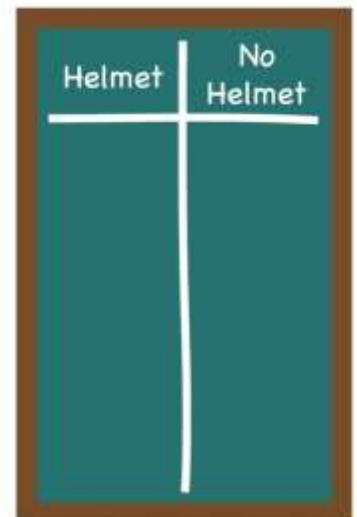
Video: "Bike Safe, Bike Smart"

Students will watch the first 2:45 minutes of the video "Bike Safe, Bike Smart" on helmet safety.

2. Class Discussion (7 minutes)

Create a t-chart like the one to the right:

- Ask students why it is important to wear a helmet and record answers in the proper column.
- Ask students what prevents people from wearing a helmet and record it in the proper column.
- Ask students who else wears a helmet (baseball/football players, firefighters etc).
- Point out that biking is just like all those other activities and requires the proper equipment.



Show students the brain chart:

- Discuss how different parts of the brain control different functions.
- Ask students to see if any of them have ever fallen and bruised or scraped their knee.
- Point out that the brain does not heal like the rest of the body.

3. (Optional) Demonstrate how a bike helmet properly fits:

- **Eyes:** Place the helmet so it is level on your head. If it is on level you should have about 2 fingers width of space between your helmet and your eyebrow and you should be able to see the brim of the helmet when you look up.
- **Ears:** Adjust the side straps so they create a tight V underneath the earlobes.
- **Jaws:** The chin strap should be buckled tight but not too tight; you should be fit two fingers between the strap and your chin.
- **Test:** Shake your head up-and-down and side-to-side to make sure the helmet stays secure.

The Bike

5 minutes

Lesson Objectives: Students will be able to:

1. Identify basic parts of their bicycle.
2. Explain why it is important that their bike is in good working order.
3. Perform the ABC Quick Check.

Materials

Bike Parts Poster	(Optional)
Chalkboard/Smart Board	Bike
"Parts of the Bike" Worksheet	Stop Watch

LESSON:

1. **Activity** (2 minutes)

Writing Warm Up: "Parts of the bike"

Hand out "Parts of the Bike" worksheet. Tell students will have one minute to write the parts of the bike within the correct blank spaces. Tell students to only fill out the parts they are already familiar with.

2. **Classroom Discussion** (3 minutes)

Show Students Parts of the Bike Poster:

- Ask students to raise their hand and call out the parts of the bike they completed on the handout. Label the correct parts of the bike on the board
- Ask students what they think are the most important parts to check prior to riding; circle the tires, brakes and chain/cranks.
- Describe that they should check the Air, Brakes and Chain/Crank before each ride by remembering the phrase ABC Quick Check.



3. **(Optional) Demonstration** (5 minutes)

Take a bike into the classroom:

- Ask students how long they think the ABC Quick Check will take.
- Demonstrate the ABC Quick check while student times you.

Homework 5 minutes

Lesson Objective: Students will be able to create an original public service announcement that encourages youth to ride bikes

Materials

"Sprockets of Biking" worksheet	
Blank Paper	

LESSON:

1. Introduce the Sprockets of Biking

The "Sprockets of Biking" high-light four main reasons why biking is great! Students will use their graphic organizer to explain how each topic connects to biking. The box below gives some hints:

- **Gettin' Around (Transportation):** Biking is a fun and inexpensive way to get from one place to another.
- **Shapin' Up (Health):** Biking is good for your body. It makes your heart pump and your muscles move. Biking helps us meet our daily requirements for physical activity (60 minutes of moderate to vigorous activity per day for school-aged children, *American Alliance for Health and Physical Education*.)
- **Hangin' Out (Community):** Biking helps create more person to person contact. When we are in cars, we are more closed off from our communities. It is also easier to notice activities in our communities when we are biking or walking.
- **Being Green (Environment):** We know that car emissions contribute to climate change. But do you know that short trips are the most polluting because a car's engine has not had time to warm up enough to efficiently control emissions.

Assign each student to pick a topic from the Sprockets of Biking worksheet and write adjectives that describe how biking is related to that concept. Then use those adjectives to write a PSA using the example below:



Physical Education 45 minutes

Lesson Objectives: Students will be able to:

1. Identify a bike as a legal vehicle and identify safe and unsafe bicycle behaviors.
2. Explain how to properly fit a bicycle helmet and how to perform a pre-ride safety check (ABC Quick Check).
3. Demonstrate proper understanding of traffic signs and signals and how to avoid hazards while on a bicycle.

Materials

20 cones	Tape
Hazard Signs	Whistle
Traffic Signs	

LESSON:

In this lesson, students will be able to learn rules of the road by simulating different transportation roles such as cars, bicycles, pedestrians and buses.

➤ SET UP (15 MINUTES BEFORE CLASS)

- Tape the traffic signal and sign cards to the cones or walls of the gymnasium to create a mock intersection consisting of:
 - 4 One Way Signs
 - 4 Yield Signs
 - 2 Do Not Enter Signs
 - 8 Crosswalks
 - 4 Stop Signs
 - 4 Green Traffic Lights
 - 2 Bike Lane Signs
- Place or tape the following hazard signs to cones and on gymnasium floor:
 - 2 Pot holes
 - 2 Wet leaves
 - 2 Glass, Rocks, Sand (debris)
 - 2 Train Tracks
 - 2 Parked Cars
 - 2 Sewer Grates

ADDITIONAL COURSE LAYOUT MATERIALS

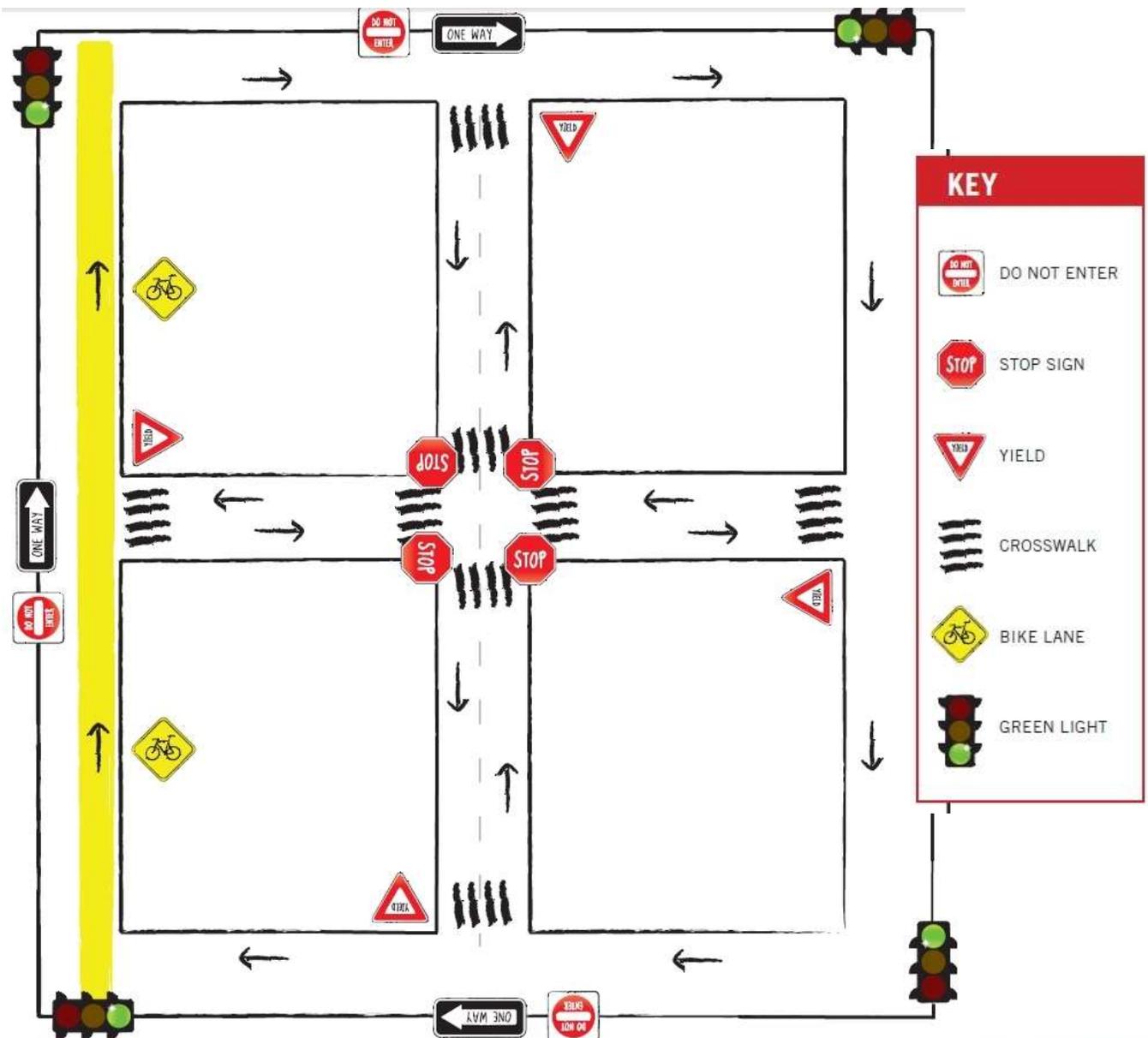
Many objects can be used to create a better visual understanding of the layout by creating barriers to represent curbs and crosswalks. Below you will find some suggested materials to use:

- Jump Ropes
- Painter Tape
- Pre-existing lines
- Sidewalk chalk
- Yarn/fabric
- Cardboard

SIMULATION COURSE:

- Use the perimeter of your space to create four one-way streets, marking them with One-Way signs at intersections or corners. One of these streets should have a bike lane.
- At every corner of your space, create two intersecting roads that meet the one-way streets on the perimeter. Both of these roads should be 2-way streets.
- The two center streets should meet at a 4-way intersection with Stop signs.
- Place Yield signs where the center streets intersect the one-way perimeter streets.
- Crosswalks should be marked where the interior roads intersect the perimeter roads and at the 4-way intersection.
- Place the Do Not Enter signs close to the intersection of the perimeter and interior streets.
- Once the streets are set up, there will be four quadrants created by the space between the streets. You can choose to use these as fitness stations during the traffic simulation.

Below you will find an example on how the traffic simulation course can be set but there may be many other configurations depending on space, time and students. Always be sure to use all of the space you are allowed.



BEGINNING THE LESSON

1. REVIEW CLASSROOM LESSONS

Helmets:

- If students have helmets, ask them to place their helmets on in the correct manner. Advise the students to check their neighbor's helmet for correct fit.
- If students do not have helmets with them, call for one student to volunteer and ask students to instruct the volunteer on how to properly fit a helmet.

Signaling:

- Remind students on how to signal properly.
- If time permits, play a quick game of Hand Signal Simon Says.

Visible/Responsible:

- Ask students if they can give an example of what it means to be visible and responsible.

2. EXPLAIN THE SIMULATION COURSE

- Ask students to view the Simulation Course. Ask them if they are familiar with the road signs that they see. Ask them to identify and define each by holding up a copy of each sign.
- Tell students they will all be split up into groups that each will play a different transportation role (see below). Transportation roles will rotate through each group so all students need to understand how to act in all four roles.

3. PRACTICE TRANSPORTATION ROLES

- **Cars:** This is the base role at which all groups begin. The presence of each of the following roles serves to help students understand that roads are built for other forms of transportation besides cars. If a group is not assigned another role, their default is a car. When in the car role, students should obey all traffic signals and signs and use turn signals by blinking their hands in the direction they are turning. Students should also position their hands as if holding onto a steering wheel. These motions will identify them as cars.
- **Bicycles:** When a group is assigned this role, they should hold their hands as if gripping bicycle handles (see picture). They must use bicycle hand signals when turning and continue to obey all traffic signs and signals. This demonstrates that bicycles are considered legal vehicles and must assume all of the rights and responsibilities that go along with that categorization.
- **Buses:** When a group is assigned this role, they should team up in pairs or threes and connect to one another by placing their hands on each other's shoulders (see picture). This simulates the additional space that a bus takes up on the roadways. Students acting as buses will continue to obey all traffic signs and signals and the person at the front of the bus will use their "blinking" hands to designate the direction they are turning. (...Continued)
- **Pedestrians:** When a group is assigned this role the students will step off of the roads and walk alongside the roads, as if on a sidewalk. They will circulate between the four crosswalks to serve as an additional obstacle for "vehicles" to consider while "driving". The pedestrians serve as a reminder that bicyclists must always obey traffic signals even if there are not motor vehicles coming because pedestrians may need to cross the street and legally have the right of way.
- **Bicycle Rebels:** This role is never assigned to a full group. Choose a few responsible students to rotate in and out of this role. Make these students wear a colored pinnie jersey. They will act as bicyclists who are deliberately disobeying the traffic laws and street signs. The rebels should stop using signals, ride the wrong way on a one-way street, ignore stop signs, and weave around pedestrians instead of stopping etc. This demonstrates the sense of chaos created on a roadway when bicycles are breaking traffic laws. Simulation Course Layout Example

4. MODEL THE TRAFFIC SIMULATION

Choose at least 5 students to demonstrate walking the course and obeying traffic signs and signals.

- **ROLES:** These students should all start out as cars. As they continue to walk the course, assign each student one of the additional four transportation roles described below (bicycle, bus, pedestrian, bicycle rebel).
- **SIGNALING:** Be sure that motor vehicles are signaling by blinking their hands and bicycles are signaling with their arms as taught in part 1, "Be Predictable".
- **CLAPPING:** Instruct volunteers to give a single clap when they have come to a complete stop at stop signs. This action will make it easier to determine which vehicle has arrived at the stop sign first.
- **FOUR WAY INTERSECTION RULES:** Explain that a four-way intersection works on a first come, first served basis. The first car to arrive (and clap) gets to cross through the intersection first. If two cars arrive at once, the car to the right gets to proceed through the intersection first.

5. START THE TRAFFIC SIMULATION COURSE

- A. Divide students into at least 4 groups of 4 – 6 and give each group a name. Make sure students remember their group name. The group name will be used throughout the traffic simulation to direct students into the transportation roles listed in part 3.
- B. Direct students to spread out within the boundaries of the designated traffic simulation space. Students do not need to stand by other members of their group.
- C. At the “Go” signal, students will begin to move about the traffic simulation course acting as cars. Students will obey each traffic signal or sign, clap when they come to a complete stop at stop signs, and use their hands to signal the direction that they wish to turn.
- D. After 3 -5 minutes (or until students seem to have the hang of the course), begin to call group names and assign each group a new transportation role (see example instructions below). Do your best to make sure each group receives the opportunity to practice each transportation role.
 - **PEDESTRIANS:** “Group carrot, you are now pedestrians, walk alongside the roads and cross at the crosswalks”.
 - **BICYCLES:** “Group strawberry, you are now bicycles. Stay on the road, but reposition your hands to grip handlebars and make sure to use bicycle turn signals”.
 - **BUSES:** “Group celery, you are now buses. Get into groups of two or three by placing your hands on each other’s shoulders. Continue to drive around the course obeying signs and using turn signals”.
- E. Introduce the Bicycle Rebels by choosing 1-3 responsible students and giving them a pinnie: “[student name], you are now the bicycle rebel. You have permission to disobey street signs and signals. Show everyone else how much chaos is created when bicyclists do not follow the rules!”
- F. Introduce Bicycle Hazards (optional): Once students are demonstrating an understanding of the traffic simulation course, you can choose to place the hazard cones throughout the course. Pause the students and explain the correct way for bicycles to avoid a hazard:
 - Slow your speed.
 - Scan behind you to look for traffic.
 - If there is traffic, wait until it clears.
 - When traffic is clear, signal in the direction you are moving and merge into the other lane, around the hazard.
 - Be sure to point out the hazard to other bicyclists so they can prepare to avoid the hazard.

6. Debrief (optional)

After the simulation, gather the students in a group and ask the following questions:

- Why is it important for bicycles to obey all traffic signs and signals?
- How did you feel when you had to deal with the “rebel” bicyclists? Why?
- How do bicyclists behave at a four way stop?
- Should bicyclists ride with traffic or against traffic? Why?
- What do bicyclists do at a yield sign?
- At what age must you start riding on the road? (age 12)

Resources

Grades Kindergarten – 1st

Description	Resource	Cost
Bike Helmet Pictures	TransOptions.org	Free
Video "Ride Smart, It's Time to Start"	NHTSA.gov	Free
Good/Bad Bike Poster	TransOptions.org	Free
Bike Right® Bingo	TransOptions.org	Free
Bike Right® Activity Book K-1	TransOptions.org	Free

Grades 2nd – 3rd

Description	Resource	Cost
Video "Bike Safe, Bike Smart"	NHTSA.gov	Free
Helmet Fit Checklist	TransOptions.org	Free
Road Sign Board Game/Road Signs	TransOptions.org	Free
Bike Right® Activity Book 2-3	TransOptions.org	Free

Grades 4th -6th

Description	Resource	Cost
"Biking & Me" worksheet	TransOptions.org	Free
Helmet Fit Checklist	TransOptions.org	Free
Video "Bike Safe, Bike Smart"	NHTSA.gov	Free
Brain Chart Poster	TransOptions.org	Free
Bike Parts Poster	TransOptions.org	Free
"Parts of the Bike" Worksheet	TransOptions.org	Free
Visibility Posters	TransOptions.org	Free
Bike Riding Dangers Poster	TransOptions.org	Free
"Sprockets of Biking" worksheet	TransOptions.org	Free
Simulation Course Hazard/Traffic Signs	TransOptions.org	Free
Simulation Course Map	TransOptions.org	Free

Grades 7th – 8th

Description	Resource	Cost
Video "Jello in a Jar"	Safe Kids USA	Free
Bike Parts Poster	TransOptions.org	Free
Cross Chaining Poster	TransOptions.org	Free
"All Geared Up" worksheet	TransOptions.org	Free
Helmet Fit Poster	TransOptions.org	Free
Bike Right® Patch Kit	Contact TransOptions for availability	Free
Tire Levers	Local Bike Shop	\$2-6 per set
Bicycle Floor Pump	Local Bike Shop	\$10 - \$30 per pump
Bicycle/Wheel	Check your local police department	Free
Wrench	School Janitor Closet	Free