



## FOURTH GRADE LESSONS: INTRODUCTION TO BICYCLING SKILLS AND HELMETS

By fourth grade the majority of students have learned to ride a bicycle and students are gaining independence. This is a fantastic time to encourage students to bike safely and understand the importance of bicycle helmets. This lesson is broken into three sections ideally done during two class periods.

### LESSON 1: HELMET SAFETY AND BRAIN INJURIES (15-20 MINUTES)

**Objectives:** Students should learn to understand the causes, effects, and prevention of brain injuries as well as how to properly fit a helmet.

**Materials:** Sample helmets, Empathy Station materials - optional (see resources for information about how to assemble the stations)

**Vocabulary:** Brain injury, paralysis, motor skills, coordination, balance

#### Discussion Points:

1) Why is it important to walk and bike more (to school, to friend's houses, to the park etc.)? Here are some good reasons:

- Environment
- Gas prices
- Exercise
- Enjoy time with friends/family
- See your neighborhood
- Have fun!

2) Helmets: Address safety on bicycles, scooters, skateboards etc. Ask: "What is the number one thing you can do to be safe on your bicycle?" Answer: WEAR YOUR HELMET! Ask students the following questions to encourage discussion.

- Why is a helmet more important than knee pads? Elbow pads?
- What does a helmet protect? What is inside of our heads that is so important?
- What does our brain do?
  - Controls your heartbeat, breathing, temperature, blood pressure
  - Controls your movement, balance, coordination, sensation
  - Controls all of your senses (hearing, sight, smell, taste, touch)
  - Controls your emotions, judgment, decision making, memory)
  - Controls your speech, sleep, growth
    - What would it be like to lose any of the above? What would you miss the most?



### 3) Brain Injuries:

- What happens when you have a brain injury?
  - Computer analogy: the brain is the computer for the whole body.
    - If computer keyboard is missing keys, can you type a letter? (compare to spinal cord injury and not being able to feel/touch an object)
    - If computer screen is scratched, can you see the whole picture? (compare to losing all of some of your sight from a brain injury)
    - If computer mouse is not connected, can you move the cursor? (compare to having a spinal cord injury and not being able to type letters)
    - If computer is not plugged in or is broken, will it still work? (compare to major brain injury- the brain cannot function the way it used to)
- How would a brain injury affect you?
- Can your brain heal itself? No!

**Activity: Helmet Fit:** Bring a student volunteer in front of the group for a sample helmet fit. Remind students that if they wear a helmet that isn't fitted correctly, it won't be able to do its job of protecting their brains. Have all students hold two fingers up and participate in the 2-Finger Test.

**2-Finger Test:** 1) Place two fingers across forehead (between bottom of helmet and top of eyebrows), 2) Place two fingers (in V-shape) underneath each ear (where straps should go), and 3) Place two fingers under the chin strap. As students are following along, adjust the sample helmet on the volunteer until it fits snugly. Have volunteer shake his/her head to demonstrate that the helmet is on just right.

Question: What are some reasons kids don't wear helmets? (Most important with 4<sup>th</sup> grade and up)

Answer: Not cool, messes up hair, don't have one, can't afford one, too good to need one.

- What types of sports and jobs do people wear helmets for? (football, hockey, baseball, construction)
- If all of those people wear helmets do you think there is a reason?
- Even the best of the best and professionals still crash because things are unpredictable. We only have one brain, and we need to protect it EVERY time we ride!

**Optional Activity: Empathy Stations (Additional time needed for this activity)** Set up empathy stations around the room and break students into groups. These groups should rotate every 3-5 minutes so each student has the opportunity to try each station. Once students are finished have them clean up the stations and sit back down to talk again. Ask students how the brain injuries mimicked at each station would affect their daily lives.



## LESSON 2: RULES OF THE ROAD AND BIKE CHECK (15-20 MINUTES)

Fourth grade students are beginning to understand traffic and the rules of the road. This lesson consists of a discussion about traffic rules and bike check demonstration.

**Objectives:** Students should understand that bicycles have the same rights, rules and responsibilities as car drivers, but they are more vulnerable and need to take extra precautions. Students should also learn to check their bike to make sure it is safe to ride.

**Materials:** Sample road signs, bicycle, parts of the bicycle worksheet.

**Discussion:** Ask students to explain to the class why cars have rules and hypothesize about what might happen if they didn't have rules. Transition into why bicyclists should follow the same rules. Keep in mind the following rules specific to bicycles (Courtesy of the CDOT Bicycle and Pedestrian Program).

### **RIDE ON THE RIGHT:**

- Ride in the right lane with the flow of traffic.
- Ride as close to the right side of the right lane as safe and practical when being overtaken by another vehicle.
- Ride on the paved shoulder whenever a paved shoulder suitable for bicycle riding is present.
- Ride in the right lane except when:
  - Overtaking another bicycle or vehicle proceeding in the same direction
  - Preparing for a left turn
  - Avoiding hazardous conditions

### **RIDE IN A STRAIGHT LINE:**

Riding predictably will make you more visible to motorists. It's easier for a motor vehicle driver to pass when you're riding in a straight line. Don't weave in and out of parked cars - you may disappear from motorists' sight and get squeezed out or clipped when you need to merge back into traffic. At intersections, stay on the road. Don't ride in the crosswalk and suddenly reappear on the road again. A driver may not see you and turn the corner and hit you.

### **NEVER RIDE AGAINST TRAFFIC:**

Ride on the right, in the same direction as the traffic next to you. Riding with the flow of traffic makes you more visible. Riding on the left, against traffic, is illegal and dangerous. Motorists and other road users are not looking for bicyclists on the wrong side of the road. Riding the wrong way increases the chance of a head-on collision with vehicles moving with the normal traffic flow.

### **OBEY TRAFFIC SIGNS & SIGNALS:**

Know and obey all traffic laws. Give motorists a reason to respect bicyclists! It is illegal and dangerous to ride through stop signs, red lights, impede traffic, ride several abreast, or ride the wrong way down a street. These illegal actions reinforce the myth that bicycle drivers are irresponsible and do not belong on the road. By driving your bicycle in a safe manner (watching out for yourself as well as others) you make it easier for motorists to treat you as an equal on the road and be polite to you or the next bicyclist they see.



### **USE HAND SIGNALS:**

Use the proper hand signals for left or right turns and for slowing or stopping. When turning, you must signal continuously at least 100 feet before the turn and while you are stopped waiting to turn, unless use of your hand is needed to control your bicycle.

### **RIDING ON SIDEWALKS & IN CROSSWALKS:**

You are allowed to ride your bicycle on a sidewalk or in a crosswalk unless it is prohibited by official traffic control devices or local ordinances. When riding on a sidewalk or in a crosswalk, you must observe all the rules and regulations applicable to pedestrians, yield the right-of-way to pedestrians, and give an audible signal before passing them. An audible signal can be a bell, horn or your voice saying, "Hello, passing on your left." However, riding on sidewalks is not recommended. Many crashes between bikes and cars occur on sidewalks at driveways and street crossings, especially when bicyclists ride against the flow of traffic. You should always walk your bicycle in busy shopping areas or on downtown sidewalks. Sidewalks are for pedestrians, not bicyclists, and you should be courteous and ride slowly and cautiously.

### **ABC Quick Check:**

Using the bicycle shows students how to ensure that their bicycle is ready to ride. Students should follow these easy steps each time they go for a ride and ask a parent or bike mechanic to help if their bike doesn't pass the check.

**A: Air!** Make sure the tires are inflated. This can be done by squeezing the tire to see if it is rigid. Similar to car tires, the recommended inflation is printed on the sidewall of the tire.

**B: Brakes!** This is one of the most common things we at Bicycle Colorado see- brakes that don't function well or don't function at all. It's really hard to avoid dangerous situations when your bike won't stop or slow down! Students can check the brakes by squeezing handbrakes and rocking the bike back and forth or kicking the kick brake back. Hand brakes should keep the bike still while the bike is being rocked back and forth and should not compress all the way down to the handlebar.

**C: Chain and Cranks!** You should test to see if the chain is tight (not droopy) and well oiled. Rusty chains can seize or break. Cranks should be jiggled to see if they move from side to side. If they do the bolts on the cranks should be tightened.

**Quick: Quickly check the bolts and quick-release levers!** Explain that if these bolts/levers are not tight, the wheels could come off.

**Check:** Take your bike for a short spin to make sure everything works before heading off on a longer ride. It is much better to notice a problem when you are close to home than when you are far away!



**You Check:** Your bike is safe and ready to go. Are you?

- Helmet
- Bright colors/safety vest so cars and others can see you
- Pant leg rolled up
- Shoelaces and backpack straps tied
- Always bring your brain! Keeping a sharp mind, being aware and being prepared keeps you safe.

## LESSON 3: ON BIKE SKILLS (45-60 MINUTES)

Once students have a grasp of helmets, rules of the road and ABC Check they are ready to get on bikes! We suggest doing this lesson on a day when some students can ride to school and let the class use their bikes. You may also be able to ask a local bike shop to send out a mechanic to make sure the bikes are ready to roll.

**Objectives:** Students should come away with this being able to control their bicycles.

**Materials:** Sidewalk chalk, cones, masking tape, helmets, bikes, volunteers.

**Activity:** Set up bicycle activity course using the Bicycle Rodeo diagrams included the Resources section. Fit and double check helmets on students. Walk students through the course for the first time and explain each station. It is recommended that no more than 6 students at a time are on the course; this keeps things under control and allows use of just a few bikes. Station volunteers at each station to help students master the stations.