**Lake Tahoe Safe Routes to School Curriculum**

4th Grade. 40 minutes. Classroom setting.

**Objectives:** Students will learn some of the benefits of biking, as well as key aspects of being a safe bicyclist.

**Materials:** Demonstration bike to facilitate bike parts discussion, bike helmet, mason Jar, food coloring

**Introduction:** (2 minutes)

Instructor’s name and relevant background. Thank the teacher and class for hosting.

What is Safe Routes to School all about?

* Increasing safety for students and families to walk and bike to school
* Increasing the number of students and families biking to school
* Improving health by encouraging physical activity
* Preserving the environment by reducing vehicle miles traveled.

Provide brief overview of today’s lesson.

**Getting-to-school brainstorm:** (10 minutes)

List all reasonable ways to get to school on the board in three columns without headings.

Put active transportation (ie; walking, biking, skateboarding, etc.) on the left side of the board.

Put ways with lessened pollution and/or traffic impact (ie; carpools, hybrids, public transit) in the center of the board.

Put ways that add to traffic and require no exercise (ie; cars, trucks, etc.) on the right side of the board.

Ask students why some are written on the left and some are written on the right. Then explain using some of the criteria below.

* Pollution: Walk/bike/skate creates no pollution. other choices create pollution.

Hint: What happens when cars burn gas? Is car exhaust good to breathe?

* Exercise: Walk/bike/skate allows for exercise. Other choices do not allow exercise.

What would a PE teacher say about walk/bike/skating? Is it good for you?

* Traffic: Walk/bike/skate creates minimal traffic. Other choices create traffic jams.

What happens when everyone drives at the same time; What do you get stuck in?

* Fun? Do you have fun walk/bike/skating?

Any answer to this question is correct.

“Today we are going to focus on one of these ways to get to school, walking.”

Circle biking within the list of ways to get to school.

“What is good about biking to school? No pollution, no traffic, exercise, and fun.”

**ABC bike check:** (5 minutes)

Stand with your bike, make sure the students are facing you.

“The bike is becoming more and more popular for transportation because of health benefits, the decrease in traffic, and it is cheaper than building more and more roads.”

Call on students to name parts such as tires, wheels, and brakes.

“Do an ‘ABC’ check every time you ride your bicycle to ensure all parts are working.”

Write “A” “B” and “C” on the board vertically.

“A is something you breath, A is?” (Air).

* Squishy tires can cause a crash or a flat. Pump tires regularly.

“B stops the bike, B is?” (Brakes).

* Test your brakes by pulling each lever and pushing the bike.

“C stands for “Check.” Look and listen before making a final decision.”

* Do a visual check, and gently bounce the bike and listen for rattling.
* Final check, thumbs up or down?

This check only takes a few seconds and students will be responsible for checking their own bike during the bike rodeos.

Restate the three steps (Air, Brakes, Check) while demonstrating on the bike.

**Bike fit:** (5 minutes)

**“**Bicycles, like shoes, must fit. Could you run a mile in a pair of tiny shoes or giant boots?”

* An ill-fitting bike will be uncomfortable and tiring.
* You must be able to stand over the bike frame (demonstrate).

“Many people ride with low saddle/seat height, or straining to reach the handlebars.”

INCORRECT FIT: Have students run in place while squatting low, arms fully extended to the handlebars.

CORRECT FIT: Have students run with a regular posture, arms/elbows slightly forward to the handlebars.

“On most bikes, proper saddle height makes it difficult to touch the ground with your feet while seated. This means getting on or off the saddle by using a pedal as a step.”

Review that bikes, like shoes, must fitto be comfortable and easy to ride.

**Helmet fit:** (5 minutes)

“Helmets are required until age 18 by California state law.”

“What are helmets made of beneath the plastic cover? Helmets are composed of Styrofoam, often used to protect fragile packages. Styrofoam is easily damaged. Helmets are disposable and only good for ‘one hit.’”

“If a helmet is in good condition the next step is to adjust it for fit.”

Model the three fit adjustments with your helmet.

Straps, buckle: buckle the chin strap, with no more than two fingers between chin and strap.

NOTE: Sometimes other straps must be adjusted such as ear-sliders (two fingers in a “V” around the ear) or internal retention systems.

Level on brow: place helmet brim two fingers above the eyebrow.

Final decision: shake your head, the helmet should not move. “Thumbs up or down?”

Inform students that they will perform these adjustments during the bike rodeos.

Review three helmet fit adjustments: chin buckle, level, shake check.

**Crash course:** (5 minutes)

“All modes of transportation crash. Crashing can result in injury. Most crashes are people crashing by themselves and can be avoided.”

Write the key phrases “Heads-up” and “Bubble.”

Use physically exaggerated movements associated with heads-up and bubble.

Heads-Up: Watch out, pay attention. You keep your head up.

* What distracts drivers? (cell phones, stereo)
* What do you need to see when riding your bike?

Bubble: You leave empty space around your bike.

* We have a personal space around us, our bikes, and our cars.
* Being “cut-off.” or “tailgating” is when drivers drive too close.

“You can avoid crashing by riding smart, keepyou head-up and space around your bike!”

Lead students in repeating “heads-up” and “bubble” with gestures.

**Air pollution demonstration**: (5 minutes)

Ask the students, “What goes into the air when you have a fire?” (Smoke.)

“Cars use gas by burning it, creating smoke or ‘exhaust.’

“Is smoke good for us to breathe? Is car exhaust good for us to breathe?” (No.)

“Changes on earth happen slowly or quickly.”

* Some changes take thousands of years, like erosion on a mountain.
* Some changes happen in a day, like earthquakes.
* Does it take thousands of years to make air pollution or just a day?

Reveal the glass jar filled with water, explain that the water represents clean air.

Ask the class, “Would you breathe this air?”

Have the class take a deep breath.

Reveal the food coloring, explain this represents air pollution from car exhaust.

One at a time, have the students suggest a destination for a driving trip.

For each trip add a drop of pollution and ask, “Would you breathe this?”

NOTE: Add the same amount of pollution for all car trips, cars pollute the most during the first few minutes (catalytic converter warming up). The current air quality is not perfect, after a drop or two state, “You are breathing this!”

Stop when the “air” becomes very dark.

Have the class take another deep breath.

Review that each car trip adds pollution to the air. Biking/walking creates no air pollution at all.

**Conclusion/review:** (3 minutes)

Discuss what the class has learned, emphasizing “ABC,” bike fit, and helmet fit. Ask students about the benefits of walking and how they can stay safe while doing it. Ask for any questions. Thank the class and teacher for hosting you.