
An Interdisciplinary Approach to Bicycle Safety Education



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The New York State Safety Education syllabus describes learner outcomes regarding bicycle education in the classroom as follows: “Students will be able to describe their responsibilities as a passenger and a driver of a vehicle.” Understanding the importance of proper bicycle maintenance and following the rules of the road are necessary prerequisites for this outcome.

Since the need for safety awareness so permeates our daily lives, a consistent, comprehensive K-12 program is essential. Although bicycle safety education can be organized as a distinct discipline, it transcends the boundaries of all subject areas. To follow are examples of how bicycle safety education may be integrated through the various disciplines.

Art

Make a display of highway, traffic, and bicycle safety.

Language arts

Ask your students to write a story about an experience they have had, or use references to research something that interests them about bicycles. Some topic ideas are:

- History of the bicycle — Its invention and models in use at different times. Bicycling at the turn of the 20th century. Modern trends in styles, sizes, accessories. How bicycling is different today.
- Uses of the bicycle — Transportation and pleasure. Commercial. Racing.
- Famous cyclists — Speed attempts and records. Bicycle meets and cross-country drivers

- How to buy a bicycle — Size and condition. Purposes for buying one.
- Locate fiction books with themes on highway, traffic, and bicycle safety.

Foreign Language

Compare the traffic rules of the United States and another country.

Mathematics

- Calculate cost advantages of riding a bicycle versus driving an automobile.
- Compare prices on various types of bicycles.
- Compare local vehicular accident statistics with national statistics.
- Estimate braking distances. Braking distances are about proportional to the squares of the driving speeds.
- The reaction interval (time required to take action) is about three-fourths of a second. Students can compute the distance traveled per second at varying speeds.

Science

- Compare traffic speed and stopping distance, velocity and inertia.
- Ask students if it is possible to stop on a dime. Talk about factors that affect stopping time of a vehicle.
- Involve students in a science research project on friction. Some questions could be: What is friction? How does friction make it possible to control a bicycle? How does centrifugal force relate to friction in controlling a bicycle when turning?

Social Studies

- Make a map showing local bicycle facilities (bicycle routes, parking, race courses).
- Call the offices of your city government and ask for information on special bike facilities and routes.
- Discuss the need for laws and rules in the transportation system.

Technology Education/Industrial Arts

Organize a bicycle safety check.

"The Teacher's Guide to Bicycle Safety Education" is an excellent reference for more ideas. Contact your local AAA Office.

