



Bikes are Brilliant!



Bikes are brilliant! There has never been a better time to focus on bicycles and their multiple benefits to individuals, communities and the environment. At a time when child obesity is an increasing problem and our roads—including school precincts—are adversely affected by traffic congestion, the health and environmental benefits of cycling are clear.

Bikes are a popular, convenient and environmentally-friendly way of getting around. Kids love bikes—sharing their enthusiasm may enable you to 'connect' with that particular student with whom you've locked horns all year!

This unit will help you instruct students about the health and recreational benefits of cycling, cycling safety and the practical skills of bicycle maintenance. Bikes also offer a number of broader educational opportunities, so read on.

Curriculum focus

PDHPE: Safe Living, Personal Health Choices

English: Reading, Writing, Research, Talking and Listening, Public Speaking

Science and Technology: Using Technology, Design and Make

HSIE/SOSE: Past Events

Creative Arts: Drama, Performing, Visual Arts, Making

Mathematics: Measurement, Estimation, Scale, Gear ratios, Friction

Learning outcomes

Students will be able to:

- describe the health and environmental benefits of cycling
- name the major parts of a bike and the function of each part
- explain the need for rules and laws concerning road safety
- list the major safety precautions to be observed while riding a bike
- explore different ways to travel to school
- compare the activities that different people undertake to stay fit and why they choose these activities
- understand how mathematics and bikes are related
- undertake a survey and tabulate the results.

Website resources

www.rideabike.com.au

(Cycling Promotion Fund)

www.abc.dotars.gov.au/

(Australian Bicycle Council, hosted by the Australian Department of Transport and Regional Services)

www.bicycles.net.au/

(Bicycles Network Australia)

www.bfa.asn.au/

(Bicycle Federation of Australia)

www.travelsmart.gov.au

(Travelsmart, an Australian government site about alternatives to travelling by car; includes resources for teachers)

www.bv.com.au

www.goforyourlife.vic.gov.au

(Victorian Government site promoting healthy eating and exercise)

www.kidshealth.org/kid

(KidsHealth, an excellent overseas resource on children's health in general; suitable for primary-aged children)

Discussion questions

1. What are some benefits of cycling? List 6 benefits. (Hint: consider health, social, environmental and financial benefits.)
2. What should you do to stay safe when riding a bike? List as many safety precautions as you can think of.
3. List as many different types of bikes, and styles of bike riding, as you can think of.
4. Compare cycling to another sport such as swimming or running. For each sport, consider aspects such as; health benefits, safety and safety precautions, cost, convenience, fun, whether you can do the sport easily with friends or family.
5. Have you or a family member ever had a bike accident? How did the accident happen? What injuries occurred?
6. What are some of the advantages of riding a bike compared to travelling in a car?



Classroom Activities

Get to know your bike

- 🚲 Invite a bike retailer to the class to demonstrate the necessary bike safety equipment. Have the retailer show the students:
 - the parts of the bike that should be checked before use and the correct adjustments
 - the major parts of the bike and their functions
 - how to change a flat tyre
 - an approved safety helmet and how to correctly wear it.
- 🚲 In groups, and with the aid of the bike retailer, create a bike safety checklist. Then, with the whole class, compile a master list.
- 🚲 Give each student a copy of the master list. Ask the students to use the checklist to check their bicycle at home under the supervision of their parents. Alternatively, have the students take the list to the retailer's shop.
- 🚲 The 'take home message': pump up your tyres and use your gears to make cycling *really* brilliant.

Bike riding, you've got to love it!

- 🚲 Ask the class to bring in photos of themselves with their bikes. Put the photos in a box and when you've got that spare minute before the bell, pull out a photo and ask the student in the photo to talk about his/her cycling experiences and why bike riding is so great.

Bike mathematics

- 🚲 Using different wheel sizes, estimate and measure:
 - width, circumference, radius, rim depth and spoke length (in millimetres)
 - the number of wheel rotations required for each wheel to cross a basketball court.
- 🚲 Suspend a bike (e.g. using a car bike carrier) and compare the number of pedal rotations with the number of wheel rotations in each gear (hold the wheel to prevent it from spinning freely).
- 🚲 Demonstrate:
 - the relationship between power and speed by turning the pedals by hand using different gears
 - the relationship between wheel size, tyre pressure and rolling speed.

Bike safety

- 🚲 Contact your local community road safety officer and ask them to make a short presentation to the students on basic bike safety and the road rules for bicycles. Also, check out the websites of the road safety authorities in your State or territory.
- 🚲 Ask the class to work in small groups to design a colourful poster with tips on how to stay safe when riding a bike.

Surveys to promote safety

- 🚲 Cycling is generally a healthy and fun activity but sadly, many students hurt themselves while riding bicycles—some even need to be admitted to hospital. Place students in groups of three and ask each group to survey another class in the school with the following questions:
 - Have you ever been involved in an accident?
 - What was the likely cause of the accident
 - What could have been done to avoid the accident?
- 🚲 Ask the groups to put the information into a table and report back to whole class.
- 🚲 Ask the students to come up with some key messages or tips on how to improve safety. Consider including these in the school newsletter.

Cycling and Sport

- 🚲 Ask Students to 'brainstorm' the different forms of cycling, eg BMX racing, freestyle, road, track, mountain biking.
- 🚲 Put students into different groups to research each of the different aspects of sports cycling using the following questions as a common guide:
 - What are the features of the sport?
 - Who are some of the best athletes in the sport in Australia, the world?
 - What bikes are being used for the sport?
 - What skills do you need for the sport?
 - Is there a local club where you learn the sport? (Hint: consult one of the cycling websites listed above for information.)

