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Caring for our health and environment

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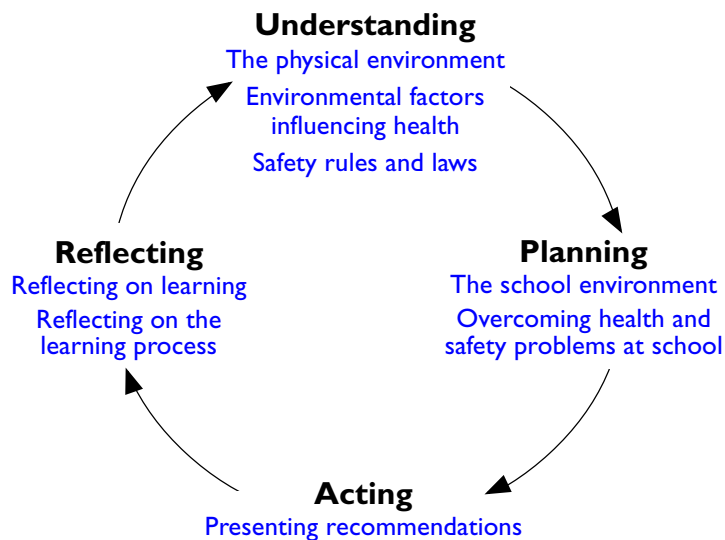
Promoting the Health of Individuals and Communities

Purpose

Students investigate how the physical environment affects their health and safety. They gain an understanding of problems in the environment, how these problems are created, and the rules and laws that help to reduce their impact on our health and safety. Students develop recommendations for reducing harm to the school environment and describe how these recommendations promote their own health and safety and that of others. Students present their recommendations to the school environmental committee (or similar) for consideration.

Overview of activities

Activities in this module are based on a learner-centred approach with an emphasis on decision making and problem solving. As the following diagram shows, activities are sequenced in **understanding**, **planning**, **acting** and **reflecting** phases.



Core learning outcomes

Promoting the Health of Individuals and Communities

This module focuses on the following core learning outcomes from the Years 1 to 10 Health and Physical Education Syllabus:

- 2.3 Students propose and demonstrate ways to promote personal safety and the safety of others.
- 2.5 Students recommend ways they can care for their environments to promote and protect their health.

Core content

Promoting the Health of Individuals and Communities

This module incorporates the following core content from the syllabus:

- factors influencing health, in particular, environment;
- health effects of human behaviours on social and physical environments including home, work and recreation, in particular, pollution;
- creation and maintenance of environments that promote and protect health and safety, in particular, the role of individuals and communities.

Assessment strategy

Promoting the Health of Individuals and Communities 2.3

The following are examples of assessment tasks that provide opportunities for students to demonstrate the core learning outcomes identified in this module. Other activities in this module provide opportunities for teachers to gather evidence about students' demonstration of outcomes for assessment purposes.

- **Students create a poster depicting an environmental health and safety problem. They explain the health and safety problem illustrated in the poster and propose ways to promote health and safety in response to this problem.**
 - Can the student propose ways to promote safety in the specific environment shown in the poster?
 - Can the student explain how the environmental problem identified in the poster may affect his or her health?
 - Can the student demonstrate ways to overcome this problem to protect his or her health?

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- Students identify an area within the school that has an environmental health and/or safety problem. They develop recommendations that can be implemented within the school to promote and protect health and/or safety.
 - Can the student identify an area within the school that has an environmental problem?
 - Can the student explain why this area has health and/or safety problems?
 - Can the student develop recommendations to care for this area of the school?
 - Can the student justify these recommendations?

Background information

Caring for our health by caring for the physical environment

The physical environment is a large interrelated system that has a considerable impact on our health and safety. In this module students gain an understanding of the many components of the physical environment and how these components affect health and safety. Students also learn about rules that aim to reduce environmental health and safety problems and why it is important to follow these rules.

The components of the natural physical environment include plants, animals (including humans), soil, water and air. The state of the physical environment can influence health in many ways — for example:

- Particles and chemicals in the air (from vehicles, factories and other polluters) may harm eyes and lead to respiratory problems if the lungs become coated and clogged by pollutants making it difficult to breathe.
- Noise from traffic, industry and other loud activities may cause temporary or permanent hearing loss and adversely affect mental wellbeing.
- Gases released into the air from cars and industry may damage the ozone layer and increase risk of skin cancer.
- Litter can increase risk of disease and adversely affect mental wellbeing.
- Polluted water may cause gastrointestinal problems if consumed.

This module encourages students to consider environmental health problems within their school. Students focus on a problem in the school, make realistic recommendations for solving the problem and see changes occur as a result of their ideas. This has a positive impact on the school environment and the health and safety of the school community.

Some of the environmental problems that students may identify, their effect on health and safety, and recommendations students may suggest are outlined in the table that follows.

Problem to be resolved	Effect on health and safety	Sample recommendation
Litter	<ul style="list-style-type: none"> • unhygienic • disease spread by rats and other vermin attracted to litter • potential for students to trip or slip on litter • fire hazard 	<ul style="list-style-type: none"> • Hold an 'emu' parade. • Educate students not to litter. • Set up an incentives program to encourage students to keep their lunch/play area clean. • Implement a 'no play until no litter' policy.
Noise and dust from construction sites in school grounds	<ul style="list-style-type: none"> • harm to hearing from construction noise • harm to lungs and eyes from dust 	<ul style="list-style-type: none"> • Schedule construction for school holidays or outside school hours. • Keep construction site closed off.
Noise from vehicles	<ul style="list-style-type: none"> • harm to hearing 	<ul style="list-style-type: none"> • Keep vehicles out of school grounds during school hours. • Plant trees to provide a barrier against road noise.
Soil erosion	<ul style="list-style-type: none"> • danger of ground collapsing and causing physical injury to students 	<ul style="list-style-type: none"> • Educate students to walk on paths. • Fence off affected areas so students do not enter them. • Plant trees, grass and ground covers to help reduce erosion and improve the soil.
Chemical storage, use and disposal	<ul style="list-style-type: none"> • possible burns or poisoning 	<ul style="list-style-type: none"> • Keep chemicals locked up at all times. • Allow only trained people to use chemicals. • Develop and display appropriate warning signs.
Limited natural shade areas	<ul style="list-style-type: none"> • skin cancers • eye damage 	<ul style="list-style-type: none"> • Plant shade trees. • Construct shade shelters.

When students are investigating an environmental problem, encourage them to gain the support of the principal, parent and school community groups, groundsperson or other interested groups and individuals. Students should base their recommendations on small achievable actions that are likely to succeed and bring about visible changes.

Terminology

Activities in this module involve use of the following language in the context of Health and Physical Education:

- | | | | |
|-------------|-----------|----------------|--------|
| environment | health | litter | rules |
| harm | influence | pollution | safety |
| hazard | injury | recommendation | school |

School authority policies

Teachers need to be aware of and observe school authority policies that may be relevant to this module, particularly policies relating to workplace health and safety.

Social justice principles

This module provides opportunities for students to increase their understanding and appreciation of supportive environments. It includes activities that encourage students to:

- recognise the school as a setting that should promote health;
- recognise the responsibility of individuals and communities to care for the natural environment.

Students with disabilities or learning difficulties may require some activities to be modified to optimise their participation and their ability to demonstrate the outcomes. Teachers should consult with parents/carers and specialist support staff to determine whether modification is necessary.

Support materials and references

Department of Environment and Heritage 1991, *Reduce Re-use Recycle: A Source Book: Preschool to Year 3*, Brisbane.

Department of Natural Resources, *Department of Natural Resources*. Available URL: <http://www.dnr.qld.gov.au> (accessed April 2000).

Department of Primary Industries 1995, *Whizzy and Zac's Incredible Journeys*, Brisbane.

Gould League, *Connecting with Nature*. Available URL: <http://www.gould.edu.au/> (accessed April 2000).

Gould League of Victoria 1993, *Waste Matters*, Prahran, Vic.

Keep Australia Beautiful Council (Queensland) 1996, *School Environmental Audit: A Guide to Best Practice Environmental Management*, Fortitude Valley, Qld.

Queensland Environmental Protection Agency, *Environmental Protection Agency*. Available URL: <http://www.env.qld.gov.au> (accessed April 2000).

Schoolground Planning and Support Network 1994, *Learning Through Landcare: Learnscaping Your Schoolground*, Queensland Department of Primary Industries, Brisbane.

Organisations

Local councils may have information brochures on aspects of environmental health and safety.

Information brochures are available from:

Department of Natural Resources
Community Education and
Extension Support
Block A, 80 Meiers Rd
Indooroopilly, Q 4068
Tel: (07) 3896 9640
Fax: (07) 3896 9625

Environmental Protection Agency
PO Box 155
Brisbane Albert St Q 4002
Tel: (07) 3227 8186
Fax: (07) 3227 8749

Activities

Understanding

THE PHYSICAL ENVIRONMENT

Nature of the physical environment

► Students brainstorm what makes up the environment. They list their ideas and determine whether each element listed is natural or made by people (built).

Focus questions could include:

- What things can you see around us in the room, the school and our community?
- Which of these things are made by people?
- Which of these things are not made by people?
- Are people part of the environment? Why?

Teaching considerations

Complete this activity with the whole class.

Use pictures or take students for a walk in and around the school grounds to stimulate their thinking on the different components of the environment.

Make students aware that all components of the environment — soil, plants, animals (including humans), water, air and built features — are interrelated.

► Students find pictures of different types of environments — for example, beach, school, forest, suburban street, park, river, rural area, farm. They discuss what is common to and different in each environment. Based on these discussions and using a ‘think, pair, share’ process, students create a definition of the physical environment.

Teaching considerations

‘Think, pair, share’ involves students thinking alone before discussing their ideas with a partner then sharing their ideas with others. The definition should be kept as short as possible.

Display the definition where students can refer to it. Students may modify the definition later.

Environmental problems and their health implications

► Students view a video or stimulus pictures of pollution and discuss what they observe. They share their understanding of pollution and list ways in which the environment becomes polluted.

Focus questions could include:

- What is pollution?
- How can the environment become polluted?
- What and who cause the environment to become polluted?

► In small groups, students discuss the various forms of pollution that harm the environment — for example, noise, water, air and land pollution.

Focus questions could include:

- How does pollution harm the environment?
- Which components of the environment are influenced by noise/water/air/land pollution?

► Students brainstorm how various forms of pollution harm their health. With the teacher's help they develop their ideas into a concept map.

Focus questions could include:

- Can pollution make you sick? How?
- How do loud noises harm our health?
- How can dust or smoke in the air affect our health?

► Students draw or glue a picture of a child onto the centre of a large sheet of paper. Around the picture of the child they draw or glue pictures of environmental problems, such as traffic, litter, polluted rivers and smoke. They draw lines to the part of the child's body that these problems may affect. When completed, students explain why they have drawn lines to specific parts of the child's body.

Teaching consideration

Students could complete this activity in pairs, small groups or as a whole class.

**SAFETY RULES
AND LAWS****Safety rules and laws to protect health**

▶ Students use the pictures of different environments found earlier to discuss how they would remain safe in each of the environments. They identify which safety aspects need to be considered in each environment then list safety aspects that are similar and different in each environment.

▶ Students discuss and describe how environmental problems could harm their safety.

Focus questions could include:

- How could pollution in the school environment be a safety concern?
- Which other types of pollution could be a threat to your safety? How?

▶ Students identify rules and laws that exist to protect our health and safety from pollution — for example, not throwing garbage on the ground. They list these rules and laws and suggest why they are important. Students then group the rules and laws according to common characteristics, such as those that apply to:

- certain places — for example, school, national parks, beach;
- different forms of pollution — for example, air, water, land;
- different people — for example, vision-impaired people are allowed to take guide dogs into restaurants.

Focus questions could include:

- Which school rules exist to prevent pollution?
- Which school rules protect the environment and your health and safety?
- Are rules different in different places in our community/in other communities?
- Why is it important to follow rules?
- Are there different rules for different people? If so, in what situations?

Teaching considerations

Focus questions should reflect the types of problems students raised earlier and the rules of the particular school. It may be necessary to go through each of the school rules during this activity.

The local council will be able to advise of laws that relate to the local community.

Students may wish to consider each of the forms of pollution identified earlier.

Planning

THE SCHOOL ENVIRONMENT

Environmental and health problems at school

► Students walk around the school and identify any environmental problems that could be harmful to their health or safety. Students share their findings and discuss these as a group. They mark the areas in which the environmental problems are located on a map of the school for future reference.

Teaching considerations

Have students use information gathered in previous activities to explain the impact the problem has on the environment, what causes it and how it affects health or safety.

Environmental problems in the school may include litter, erosion, bare areas in gardens caused by students taking short cuts or playing in the garden, chemicals in reach of students, noise from equipment or passing cars, polluted water areas such as blocked drains, limited shade areas or trees in the playgrounds or eating areas, or noise and dust from construction within the school environment.

► Using the map showing environmental problems, students list the problems found around the school and identify their impact on health and safety. They also identify and discuss rules that exist to prevent these problems and promote safety.

Focus questions could include:

- What, if any, environmental problems exist around the school?
- Was there any litter? Where was it? Why do you think this occurred?
- How could these problems affect our health?
- How could these problems affect our safety?
- Are there any rules to prevent these things from happening? What are these rules?

OVERCOMING HEALTH AND SAFETY PROBLEMS AT SCHOOL

Working on an environmental problem in the school grounds

► Students work in small groups to investigate one of the problems they have identified in the school environment. They plan how to investigate the problem, who will complete different parts of the investigation, and how to present the results of the investigation. The investigation should result in students making one or more recommendations to the principal, school environmental committee or other interested group.

Teaching considerations

Encourage students to choose a problem they can help solve — for example, litter in the school grounds rather than water pollution in the creek alongside the school.

Negotiate with students how to carry out the investigation and how to report or present their findings. Planning the investigation may take more than one lesson.

Students could use the Resource Sheet to structure their investigation.



► Students approach local environmental workers, local council members, previous students, teachers and community members for information that may be useful in planning solutions to the environmental problems identified in the school. They should discuss the advantages and disadvantages of contacting such people in terms of the information and assistance they could provide.

► Students create individual posters showing the environmental problem they identified. On their posters students use words or pictures to indicate the health and safety risks that the problem poses. Using the poster they explain what the problem is, why it has occurred and the rules that may have been broken, and propose and demonstrate ways to make the area safer and healthier.

Teaching consideration

Display the posters in the classroom or elsewhere in the school — for example, the library or administration building.

► Students make a list of recommendations or actions to take to solve the identified environmental problem. Through discussion, they determine the role that different members of the school community, such as the principal, teachers, students, groundsperson and visitors, might play in supporting and implementing the recommendations.

Focus questions could include:

- Is this an action the whole school community needs to take? Why?
- Is this an action the groundsperson needs to take? Why?
- Is this an action for adults? Why?
- Can groups of people in our school community help with these actions? If so, which groups?

Teaching considerations

People who might be able to help students implement the recommendations include groups within the school, groundsperson (or person who looks after the school grounds), adults, business people, members of the community and so on.

Make students aware that as individuals they can make a large contribution to reducing harm to the environment and their health and safety and that of others.

Acting

PRESENTING RECOMMENDATIONS

Presenting recommendations for reducing harm to the environment thereby promoting health

► Students present their recommendations to the principal, school environmental committee, community elders, local environmental group or other interested group. The presentation should be in a form that is appropriate to the students and the audience — for example, video, report, poster, speech, computer-generated slide show, addition to a webpage.

Teaching consideration

Allow students sufficient time to prepare their presentation.

► Students, as part of a class discussion, agree on a group action they can take to reduce their impact on the environment and promote their health and safety. They monitor their performance over time and note changes that occur as a result of their actions.

Teaching considerations

Students can assess the results of their actions over a defined period of time, such as a week or month, or over a much longer period.

Encourage students to recognise the effect their everyday actions have on the environment and their health and safety. By changing their actions, they can help the environment and send a positive message to others about health, safety and the environment.

Reflecting

REFLECTING ON LEARNING

Reflecting on what has been learnt

► Students recall the major ways in which the environment can affect health and safety. They predict what future actions will need to be taken to continue to reduce environmental and health and safety problems in the school grounds.

Teaching considerations

Future actions students may recommend include establishing a school environmental committee (if one does not already exist) to educate students and teachers, making presentations to other students to remind them of the impact their actions have on the environment, and having teachers include information on environmental health and safety in lessons.

REFLECTING ON THE LEARNING PROCESS

Reflecting on the learning process used

► Students discuss how they learnt about the environment, health and safety. They identify what they enjoyed doing, what they would have liked to do more of, who they enjoyed working with, and what they could have done better.

Focus questions could include:

- How did you learn during these activities?
- What was good about the way you learnt?
- How do you like to learn about things?
- Who helped you with your learning? How did they help you?
- What things could have been put in place to make your learning better — for example, less noise from others, more books to look at, more time to spend on activities, more time to share ideas with others?

School environment investigation



Resource Sheet

CARING FOR OUR HEALTH AND ENVIRONMENT • LOWER PRIMARY

Answer these questions to help with your investigation.

What is the problem?

How is this problem harming the environment?

How is this problem harming our health?

How is this problem affecting our safety?

What are some actions we could take to overcome this problem:

- as individuals? _____
- as a group? _____

(continued)

School environment investigation (*continued*)



What problems might we encounter in taking these actions?

Who could help us? How could they help?

Where could we get more information about this problem?

Recommendations

This sourcebook module should be read in conjunction with the following Queensland School Curriculum Council materials:

Years 1 to 10 Health and Physical Education Syllabus

Years 1 to 10 Health and Physical Education Sourcebook: Guidelines

Health and Physical Education Initial In-service Materials

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