

Activity 13: Choosing a hat

Aims

- To raise students' awareness of the importance of wearing a suitable hat to protect themselves from the sun.
- To encourage students to become involved in the design of a suitable hat to protect themselves from the sun as part of the school uniform.
- To increase awareness of the history in relation to wearing hats.

Assessment outcomes D&T 4.1, 4.2; English 4.7; H&PE 4.3, 4.6; Science 4.7; S&E 4.11

Reference fact sheet Fact sheet 8: Hats

Worksheets Worksheet 13A: Choosing a hat
Worksheet 13B: SunSmart hat study
Worksheet 13C: Historical perspective in wearing hats

Requirements

- Obtain a variety of hats (students could all bring a hat to class). The teacher will need to supply some different types of hats as well.
- The teacher could also bring in a range of photos and posters of fashionable/trendy hats for young people. These could be enlarged and displayed.
- Teacher needs to reinforce issues around implications of not wearing a hat in relation to skin cancer and premature ageing.

Teacher guidelines

- 1 Ask students to comment on wearing a hat to protect themselves from the sun while at primary school. Was it compulsory to wear a hat? What types of hats did they wear and how did they feel wearing that hat? How is this different now that they are in secondary school? Do students wear hats? Why and when?
- 2 Establish with students what constitutes a good SunSmart hat – one that provides shade to the face, ears and back of the neck. The Cancer Council South Australia recommends the following as offering the best protection from the sun:
 - broad brimmed hat with wide brim measuring at least 7.5 cm
 - bucket style hat with a deep crown that sits low on the head and a brim of at least 6 cm and
 - legionnaire-style hats.
- 3 Students should discuss the criteria that makes a hat suitable for protection from the sun (e.g. fibre, fabric, brim size and colour).
- 4 Organise the students into small groups and assign each group a variety of hats.
- 5 Distribute Worksheet 13A: Choosing a hat. Each group should answer the questions and rate each hat according to the 'star' rating system detailed on the worksheet.
- 6 Students could then vote on the hat most likely to be worn by members of the group, taking into consideration the sun protection ratings. (This may necessitate the class designing their own style provided it meets the required sun protection criteria).
- 7 Complete Worksheet 13B: SunSmart hat study which analyses a study on the effectiveness of different hats for sun protection.
- 8 In groups, discuss and complete Worksheet 13C: Historical perspective in wearing hats.

Activity 13: Choosing a hat (cont.)

Extension activities

- 1 Design a hat you like the look of which satisfies sun safe requirements.
- 2 Make a collage of hats from different magazines and indicate which ones are SunSmart. Display your collage in your school or classroom.
- 3 Debate the following:
 - a) That the government should sponsor all school students by supplying sunscreen and hats.
 - b) That SunSmart hats should be compulsory. (If results are favourable, students could pursue their argument and have it published in school newsletter).
- 4 Write a letter to Lleyton Hewitt asking why he doesn't wear a SunSmart hat.

Worksheet 13A: Choosing a hat

From the hats assigned to your group, complete the following table.

Use the following star ratings when you see this symbol ☞

* poor ** okay *** good **** very good ***** excellent



	Hat 1	Hat 2	Hat 3	Hat 4
Type of hat (description)				
Who might wear it?				
For what activities?				
☞ Sun protection rating				
☞ Comfort rating				
☞ Fashion rating				
☞ Stability in the wind rating				
Other features (explain)				

1 Which hat gave the best protection from the sun? Explain your answer.

2 Which hat gave the least protection from the sun? Why?

3 Which hat was the most popular? Why?

4 Which hat would you wear? Where and when?



Worksheet 13A: Choosing a hat (cont.)

5 Do you currently wear a hat? What style? When and where do you wear it?

6 What determines your choice of hat?

- 7 a) Design a SunSmart hat suitable for school and create advertising posters aimed at a particular year level.
- b) Find out what the students in that year level think about this hat as an optional or compulsory addition to the school uniform.



Worksheet 13B: SunSmart hat study

In 2005 a study was undertaken by the Australian Radiation Protection and Nuclear Safety Agency to determine the style of hat that is most effective for protecting the face, neck and ears from the sun. Solar patches were used to monitor UV radiation on the skin.

See examples of hats used in the study:

- a) bucket hat
- b) cap
- c) broad brimmed hat
- d) legionnaires hat.

From the adjacent pictures, which hat do you think offers the most protection and why?



Source: Gies P, Javorniczky J, Roy C, Henderson S. (2006) "Measurements of the UVR protection provided by hats used at school." *Photochemistry and Photobiology* 82:750-754.

The table below presents results from this study and shows the relative sun protection that different hats provide.

Analyse the table and then answer the questions below.

Solar UV radiation protection factors provided by hat styles for different facial areas of the model headforms, compared to headforms with no hat.

Note - the higher the protection factor (PF) number the better the protection.

Hat type	Protection factor (PF)					
	Forehead	Cheek	Nose	Ear	Chin	Neck
Brimmed	16	2.5	6.8	8.2	1.1	2.3
Bucket	15	2.2	6.7	8.1	1.1	2.2
Legionnaire	13	1.6	10	4.6	1.1	4.3
Cap	8.8	1.1	4.6	1.1	1.1	1.3
Others	11	1.7	3.0	4.2	1.0	2.0

Source: Gies P, Javorniczky J, Roy C, Henderson S. (2006) "Measurements of the UVR protection provided by hats used at school." *Photochemistry and Photobiology* 82:750-754.

1 Which hat was found to provide the most protection on the:

Forehead: _____

Cheek: _____

Nose: _____

Ear: _____

Chin: _____

Neck: _____

Worksheet 13B: SunSmart hat study (cont.)

2 a) Which hat offers the least protection?

b) Would you have expected this result? Explain why.

3 Which hat offers best all round protection?

4 Which hat would you prefer to wear? Explain why.

5 With the knowledge you have gained, would you increase your use of wearing a hat? Why?

6 After completing this activity, what recommendations would you make to your uniform committee about the type of hat that offers the best sun protection for students at your school.



Worksheet 13C: Historical perspective in wearing hats

1945



1990



Worksheet 13C: Historical perspective in wearing hats (cont.)

Work in groups to complete the following worksheet.

Compare the two different eras in the photographs with the type of hats we wear today.

1 Examine three hats shown in the photographs and score them below.

Use the following star ratings when you see this symbol ☼

* poor ** okay *** good **** very good ***** excellent

	Hat 1	Hat 2	Hat 3
Type of hat (description)			
☼ Sun protection rating			
☼ Comfort rating			
☼ Stability in the wind rating			

2 a) Think back to a scene of a crowd watching a sporting event last summer. Do you think people would be wearing hats as they were in the past? Consider the type of hats and number of people wearing hats.

b) Can you explain why there are any differences between hat wearing today and past eras ie. consider culture, climate, fashion, advertising campaigns.

3 How have attitudes to tanning changed in the past 100 years? Do you think this has affected the frequency of hat wearing and the type of hat which is worn?.



Fact sheet 8: Hat guidelines for schools

accounting for around 80% of all new cancers diagnosed each year¹.

The major cause of skin cancer is over exposure to the ultraviolet radiation (UVR) from the sun over many years, particularly during childhood and adolescence². Even if exposure does not cause obvious sunburn, damage still occurs and accumulates over the years. It is never too late to start protecting your skin.

Skin protection is important in South Australia particularly from August to May.

Why hats?

Common sites of skin damage and skin cancer are the neck, ears, temples, lips, face and nose. These areas are constantly exposed to the elements and therefore, generally receive more UVR than other body parts.

Wearing a hat is one strategy that is recommended by The Cancer Council South Australia to protect the face, back of the neck and ears.

Hats should always be used in combination with other forms of sun protection practices such as:

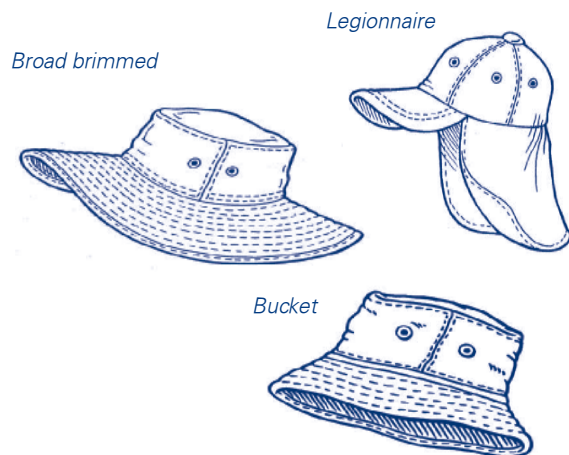
- seeking shade where possible between 10 am and 3 pm, particularly from August to May
- wearing protective clothing - lightweight shirts with collars and long sleeves, long pants or skirts
- applying SPF 30+ broad spectrum, water-resistant sunscreen and reapplying regularly (every two hours).

Which type of hat?

The Cancer Council recommends wearing a hat that provides good shade to the face, back of the neck and ears when outdoors.

Broad brimmed hats should have a brim at least 7.5 cms wide. A broad brimmed hat that provides good shade can considerably reduce the exposure of UVR to the face.

Bucket or surfie style hats should have a deep crown and sit low on the head. The angled brim should be at least 6 cm and provide the face, neck and ears with good protection from the sun.



Legionnaire style hats should have a flap that covers the neck and meets the sides of the front peak to provide protection to the side of the face.

Baseball caps and sun visors are NOT recommended as they leave the ears and back of the neck exposed.

Ventilation should also be a consideration if the hat is to be used during physical activity or warmer weather.

Stylish, fashionable hats that meet The Cancer Council requirements are now widely available.

UVR and temperature

In South Australia, the UVR levels are highest from August to May.

UVR cannot be seen or felt and the intensity of such radiation is not related to air temperature³.

People often get sunburnt on a cooler day because they tend to stay out in the direct sun for longer, rather than seeking shade or covering up as on a hot day⁴.

References

- 1 Australian Institute of Health and Welfare & Australasian Association of Cancer Registries 2000. Cancer in Australia 1998.
- 2 R Marks, D Jolley, S Leats, P Foley. "The role of childhood exposure to sunlight in the development of solar keratoses and non-melanocytic skin cancer." Medical Journal of Australia, 152 (1990), 62-65.
- 3 D Hill, JM Elwood & DR English (Eds.) Cancer Prevention - Cancer Causes. Prevention of Skin Cancer. Kluwer Academic Publishers, 2004.
- 4 R Marks and D Hill. Melanoma Control, Prevention and Early Detection, Australian Cancer Society, 1992.