



Engineering Gold

Environmental Issues

Timetable

Teacher: Lesson:

Group: SEN students:

Date: Support Staff:

Room:

Focus

In this activity students explore the impact of lubricants on the environment.

Objectives

Students will learn about:

- The environmental effects of soap detergents and oil-based chemicals on freshwater habitats.

Outcomes

All students will be able to:

- Describe the difference between the effects of soap detergents and oil-based lubricants on freshwater habitats.

Most students will also be able to:

- Explain the advantages and disadvantages of using these chemicals in ski lubricants.

Resources

- 'Engineering Gold' programme
- worksheet *Environmental Issues* (one per student)
- access to computer for research and production of article

Starter (15-20 mins)

1. Students should work in groups of three or four on this activity.
2. Show students the 'Engineering Gold' programme or the first section on the dry ski slope, which shows the young skiers putting a range of different lubricants onto their skis and Professor Styring explaining how he first developed his initial ideas for his self waxing ski.
3. Ask students to list the different lubricants being used by the skiers.
4. Ask different groups to give you one from their list.
5. Ask the students what types of chemicals they were using and introduce the idea of detergents, oils and oil based chemicals.
6. Ask the students to suggest consequences of using these chemicals, i.e. to introduce the idea that they may be harmful to the environment.



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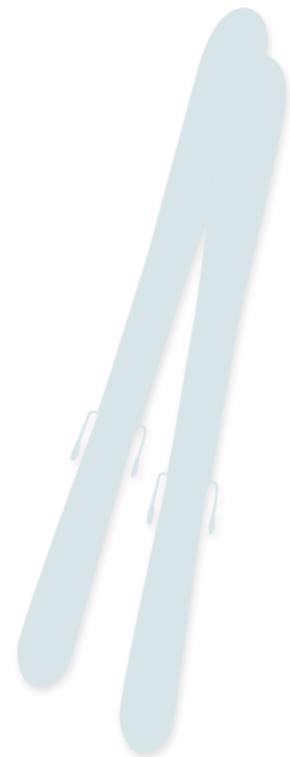
Environmental Issues

Main (30 mins)

1. Give the students the worksheet.
2. Introduce the idea that the students will be researching the effects of detergents and oil based chemicals on the environment and writing a newspaper article to expose the problem.
3. Emphasise the need to work as a team, giving different members of the team tasks, i.e. one person to write the introduction, one person to research and write the piece on the effects of the environment, one person to write the piece on the effects of oils and oil based chemicals on the environment. They could also have an editor to piece the article together, with all sourcing images to use.
4. Facilitate and support groups during the activity.

Plenary (15 mins)

1. Students display their articles (you can give each article a letter so that they can be distinguished) and using the criteria, groups peer review each other's articles. Completed score sheets should be given to you so that you can compile the highest scores for the different criteria.
2. Debrief the activity by emphasising key points with regards to effect of detergent, oils and oil based chemical on the environment. Also sensitively correct any misconceptions.





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Group (write the letter in this space) _____

Please score the group for each question by putting a tick in the appropriate box next to each question.

[A score of 1 is very low, 5 is very high]

Score	1	2	3	4	5
Is the article eye catching?					
Is the article informative?					
Is the article interesting?					
Is the article easy to understand?					

Group (write the letter in this space) _____

Please score the group for each question by putting a tick in the appropriate box next to each question.

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