Consumer Chemistry

Background

As a consumer, you are continually being exposed to new products. Some of these products can be controversial. For example, foods such as tomatoes and soybeans are genetically modified organisms (GMOs). As a citizen of the world, it is your responsibility to become informed. You should know what is in the products you use. You should understand how to use them appropriately and safely, and how to dispose of them in a responsible manner.

Challenge

Choose a common consumer item from the food, drug, or hardware department of a local supermarket. Your teacher may suggest a range of suitable products. If you choose an item that is not from one of these departments, your teacher must approve your choice. Your task is to communicate (using text and graphics) the chemical nature of the consumer product, and its container or packaging.

Materials

If you choose to make a poster or pamphlet, you will need art supplies and construction paper. You may need other materials if you choose a different presentation format.

Design Criteria

Your project can take the form of a pamphlet, poster, multimedia presentation, or other format of your choice.

Your project should include as many of these parts as possible. Alternatively, assign one part to each team working on a common product.

- **A** A creative and visually pleasing format (Use original artwork/graphics, and/or images taken from web sites, CD ROMS, or reference books.)
- **B** A description of all the ingredients in the product (Give the common or IUPAC names, molecular or ionic formulae, and structural diagrams for each ingredient.)
- **C** A description of the packaging material (Give the common or IUPAC names, molecular or ionic formulae, and structural diagrams for the packaging materials. Include recycling information.)
- **D** Any interesting historical information related to the project
- **E** Environmental or health/safety concerns related to specific ingredients or components of the product and/or packaging
- **F** A description of how the product is manufactured
- **G** A list of the references you used to obtain information

Action Plan

1. Decide whether you will work individually, or in a small group of two or three people.

2. Decide which consumer product you would like to research. If you are not sure of the suitability of your choice, check with your teacher.
3. Prepare a brief design proposal to answer these questions:
   - Will you create a pamphlet, poster, or other display?
   - What information do you want to include?
   - How large will your final product be?
4. If you are working in a group, outline the duties to be performed. Assign duties to each group member.
5. Research your project. Look for chemical structures of ingredients, recycling codes, safety and WHMIS considerations, additives to foods, etc. You may wish to research in any of these areas:
   - The Internet, at http://www.school.mcgrawhill.ca/resources/ (Go to this web site. Go to Science Resources, then to Chemistry 11 to find out where to go next.)
   - Your local pharmacy (The pharmacist is a great source of information on medicinal ingredients.)
   - Your local library (Your librarian is a valuable resource and can direct you to many sources of information and reference materials.)
   - The 1-800 number or web site address given on the product's packaging
6. Put your project together. Be creative in your lay-out. Make sure that all the topics are covered in a logical fashion. Be sure to include input from all members of your group.

Evaluate

1. Is your project scientifically accurate? Is it complete?
2. Did you include interesting or unusual information?
3. Is your presentation colourful and visually attractive?
4. Are your graphics clear and informative? Did you pay close attention to detail?
5. Are all your references included in an approved format?

Assessment

After you complete this project,

- Assess the success of your project based on how well your project meets the design criteria.
- Assess your project based on how clearly the chemistry concepts are conveyed.
- Assess your project based on how interesting it is to others in your class.