

ACTIVITY 1:

THE AEROSOL COLLECTION

This activity is designed to introduce your students to aerosols as a topic of investigation. To do this, they will use the information on aerosol products that they collected in the **Pre-Activity, The Aerosol Picture Gallery** in the room and a collection of aerosol products that you will provide. Your students may have a good sense of the variety of aerosol products available for the home market. They may not, however, know that aerosol products are used in medicine, industry, art and a number of other areas.

This activity is geared towards younger students, and teachers of grades 7-9 may want to go directly to **Activity 3**.

Your students will first be working in small collaborative groups, and then as a whole class, to determine the key points about aerosols: the variety of aerosol products, different ways in which they are used and the advantages and disadvantages of using them. After finding some key points, each group will specialize in one aspect of aerosols, using the information they collect to produce a poster displaying their findings.

TEACHING OBJECTIVES:

To raise awareness of the different varieties of aerosol products

To establish groundwork for further discussion

SKILLS:

- Investigation, classification, discussion, creative thinking, organization

MATERIALS:

- **Pre-Activity Scavenger Hunt** sheet (page 30)
- Various aerosol can products from household
- Poster board
- **The Aerosol Picture Gallery** created during the **Pre-Activity**

PREP TIME

Make a collection of aerosol products that your students can use for this activity. It would help to enlist the aid of other faculty to contribute to the class collection.

PROCEDURE

1. You may want to take some time prior to this activity to ask your students if they know of any types of specialized aerosol products. Some used in dentistry, for example, have a numbing effect on tissues. This spray lets the dentist work on a patient without pain to the gum tissue.

Certain kinds of art media, such as chalks, get “fixed” onto paper with an aerosol product. This keeps the chalk from rubbing off later.

Give your students time to think before they begin the activity. Then, list on the board any specialized aerosol products they may know about.

2. You will be asking each group to design and make a poster which will inform others about their aerosol specialty. Let your students use their charts and posters as review guides.

Making the posters will help the students to collect information and focus on just one aspect of aerosol products. Each student group then can become the “experts” in that area. They can be consulted by other groups as they build up a complete picture of aerosol products.

SOME IDEAS FOR THE CORE CONCEPTS FOR THESE POSTERS MIGHT INCLUDE:

- Uses: clean ovens, hold hair in place, disinfect wounds, cover a surface with paint, eliminate odors, etc.
- Can materials: steel, aluminum
- Components: upright nozzles, “press-down” valves, valves with a directional attachment, etc.
- Delivery forms: mist, streams, foams, gels, etc.
- Contents: read labels for this information
- Advantages: delivers product precisely, provides large amount of product in a small storage space, delivers ready-to-use product, can be recycled, doesn’t spill, does not require contact with skin to apply (e.g., disinfectant), is air-tight, tamper-resistant, and can sit on a shelf for a long time
- Disadvantages: can’t see contents, requires special handling, actuator on some products can get clogged, needs to stay away from sources of heat, etc.
- Warnings and cautions: container can’t be punctured as it is under pressure, must be kept away from direct heat sources

PULLING IT ALL TOGETHER

Take time at the end of the activity to help your students pull together all their discoveries about aerosol products into a list of **Key Facts About Aerosol Products**.

NOTE: THIS MAY BE DONE USING A CHALKBOARD CHART. YOU MAY ALSO CREATE A CHART TO HAND OUT TO EACH STUDENT.

**SAFETY CONSIDERATIONS
FOR THIS ACTIVITY**

Store all aerosol products in your classroom where they will be away from heat and risk of punctures. It is best to use cans that deliver personal care products, such as shaving cream or food products, such as whipped cream. Although you may not want to use empty cans, it would be best to find those that only have a little product left in them to avoid the possibility of being accidentally discharged.

3. The poster display: The posters can be put up around the room and students can go on a tour to see what each of the groups has discovered. Each touring group should take notes on any new information they see displayed about aerosol products so that everyone has a common knowledge base.

4. Each group should be asked to make a short presentation about their poster.

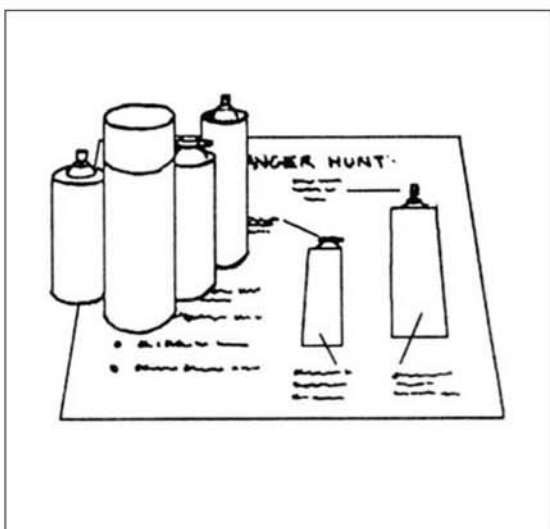
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The Aerosol Collection

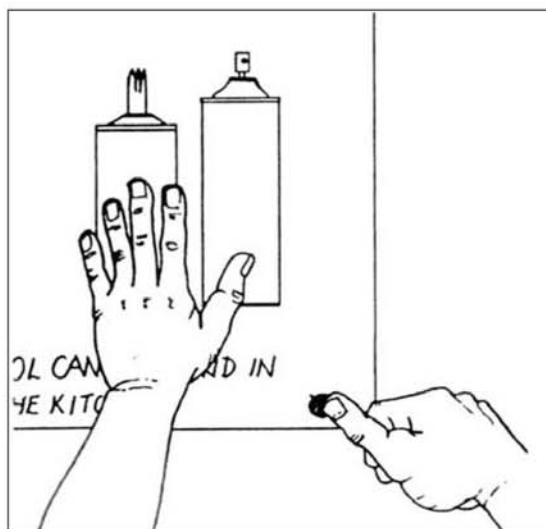
There are many things about aerosol products that you might not have noticed before. Like many things we use and see every day, there is much more to them than meets the eye. Only when we observe them closely and ask questions do we begin to understand more about them. In this activity, you and your group are going to become investigators finding out about one important area of aerosols. Your teacher will divide you into groups, and each group will look at a certain aspect of aerosol products. Finally, all the information will be shared and, together with your teacher, you will make a list of **Key Facts About Aerosol Products**.

Step 1

Everyone should have helped to collect data about aerosol products ahead of time. You also will have looked for examples of them in your home or in advertisements, magazines or coupons, and drawn pictures of them. These drawings now should be ready for display so that others can examine them. In addition, your teacher will have collected and brought in some actual aerosol products for **The Aerosol Collection**.



With your teacher's help, post up all the aerosol product drawings to make up the **Aerosol Picture Gallery**. Also, organize a display table for **The Aerosol Collection**.



SAFETY WARNING

Do not activate any of the aerosol cans, even if they seem to be empty, unless your teacher asks you to do so.

Step 2



With your group, take some time to study the **Aerosol Picture Gallery** and your **Scavenger Hunt Chart**. Keep these questions in mind while you are doing this:

- What do all aerosol products seem to have in common?
- What differences do aerosols have?
- What different kinds of products come in aerosol cans?

Now discuss these questions in your group. Make a note of the things you have observed about each question. Record this information on the chart your teacher has given you.

Step 3

Now your group is going to specialize in one area of aerosol products. Here are some sample areas. If you can think of any others, add them to this list.

- Different shapes of cans
- Range of different aerosol products
- Materials from which aerosol products are made

- Different types of buttons and nozzles, and why we need them
- Information about contents written on the cans
- Advantages of using aerosol products
- Disadvantages of using aerosol products
- Warnings and cautions and their reasons
- Directions for use

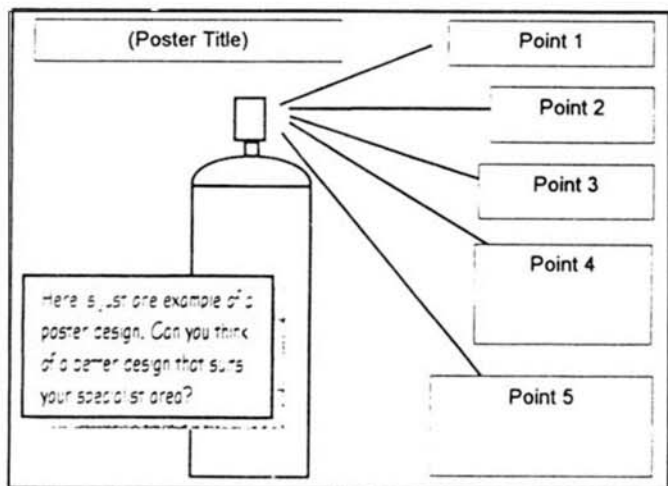
Together with your teacher, decide which group is going to specialize in which area (or areas). Once this is decided, your group must try to find out as much as it can about its specialist area by:

- Observing real cans and drawings carefully
- Noting all the ideas you have about your specialist area(s) based on your observations
- Agreeing on the most likely reasons for the can being the way it is



Step 4

Now your group is going to make a poster showing what you have discovered about your aerosol specialty. You first must decide the best way to do this so that others can easily see and understand. Be prepared to explain your poster to others.



Step 5



Each group can now pin up its poster for everyone else to see and discuss.

It may be helpful if each group, in turn, gives a short presentation to explain the reasons for the information group members have included in the poster. Organize a space where the posters can be left on display for later reference.

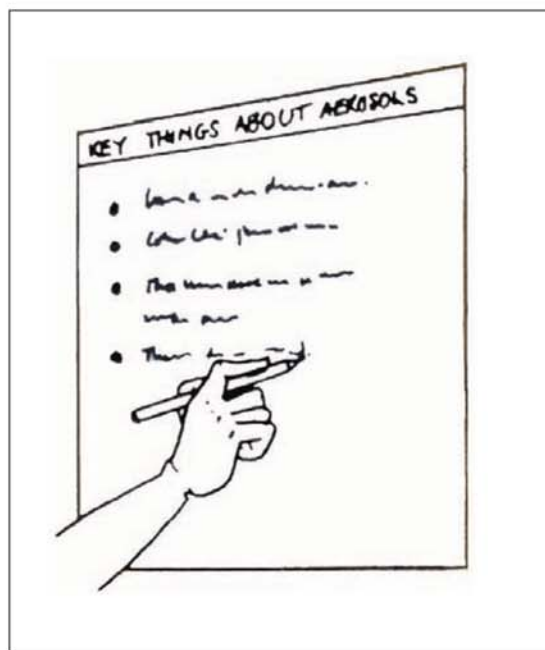
Step 6

With your teacher's help, you are going to review all the things about aerosol products that you have discovered from your investigations.

Because each group specialized in a different aerosol area, you need to be sure that you understand what other groups have done. This is your chance to ask any questions about other groups' areas. If you are not clear about something, ask the specialists for clarification.

Step 7

Finally, your teacher will help you create a list called: **Key Facts About Aerosol Products.**



This list will be the ideas you found during your investigation. As you learn more about aerosol products and the science behind them, you may need to revise, change or add to this list. Keep this list for future reference (or make your own copy). What other questions can you ask about aerosol products?