

SCAVENGER HUNT

Life Skills

- ◆ Writing Skills
- ◆ Teamwork
- ◆ Data Collection & Fact Finding



LESSON ONE: HHPS - HAZARDOUS HOUSEHOLD PRODUCTS

KEY CONCEPT:

Using the results from Worksheet 1.1, *Household Scavenger Hunt*, students will analyze data and report the findings for their newspaper.

SUBJECT MATTER OUTCOME:

After performing the scavenger hunt at home, students will analyze and graph individual, group, and classroom totals. They will then report their findings by creating a bar graph and a feature story of the results for their newspaper.

TARGETED AGE: 5th Grade

TIME NEEDED: 60 minutes

MATERIALS NEEDED:

- Worksheet 1.2 (1 for every PAIR of students)
- Large jar of pennies (100-200 pennies per PAIR of students)
- Several containers to hold pennies (1 per group)
- Graph paper
- Editor's TIP SHEET on "Writing a Feature Story" and "Using Graphics and Advertising"

FLORIDA SUNSHINE STATE STANDARDS:

- | | |
|------------|------------|
| HE.A.1.2.4 | LA.C.1.2.3 |
| HE.B.3.2.2 | LA.D.1.2.2 |
| HE.C.2.2.1 | LA.D.2.2.1 |
| LA.B.1.2.1 | MA.D.1.2.1 |
| LA.B.1.2.2 | MA.D.2.2.1 |
| LA.B.1.2.3 | MA.E.3.2.1 |
| LA.B.2.2.6 | MA.E.3.2.2 |



LET'S BEGIN

In our "Household Scavenger Hunt" we investigated potentially hazardous household products in our homes. Let's see what we found. First, compare your household total to the average home. The average household typically uses and stores more than 60 hazardous products, including household cleaners, automotive products, paints, solvents, and pesticides. Did anyone find 60 hazardous products in their home? 50? 40? 30?

Now I'm going to divide you into groups so that we can discuss our findings. Today, our groups are called **Neighborhoods**. *Group students. Recommendation: Neighborhoods should be based on a common factor (ex. number of bathrooms at home; garage/no garage; pets/no pets; etc.). Try to make group numbers as even as possible, as your validity and reliability may be affected with variable group size. A small group of 4 students works well.*

Now that you are in your **Neighborhoods**, take the results from everyone in your group and total them for one set of numbers. There should be a total number of products for the bedrooms, the bathrooms, the kitchens, the garages, and the laundry rooms. Record these numbers somewhere on your Scavenger Hunt worksheet. Give students about 5 minutes to total their findings.

Graphing the World of Hazardous Products - 3 Dimensional

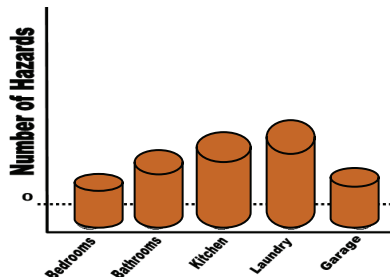
One way we can organize our findings is to create a graph. A graph creates a picture, which makes it easy to see the results. Select a partner from the members of your group. The two of you are going to work together to create a bar graph. Pass out one copy of *Worksheet 2.1* and a large handful of pennies to each pair.

FAST FACTS did you know?

According to the EPA, the average home can accumulate as much as **100 pounds** of household hazardous waste in the basement, garage, and storage closets.

The average school janitor uses **23 gallons** of chemicals per year!

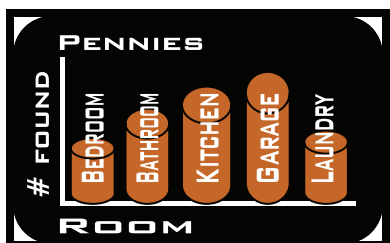
These worksheets are the bases for our graph. The rooms are listed on the horizontal line. Each household product equals one penny. So, if the total number of products in your neighborhood kitchens was 20, you would make a stack of 20 pennies and put it next to the word Kitchen. *NOTE: The students will use the numbers collected by the GROUP.*



Let's try it. Everyone look at the number of hazards found in the bedrooms in your neighborhood. Stack the pennies, then place it next to Bedroom. *Wait for students to complete. If everyone seems to understand the concept, let them continue with the other 4 rooms. This will create a 3-D bar graph.*

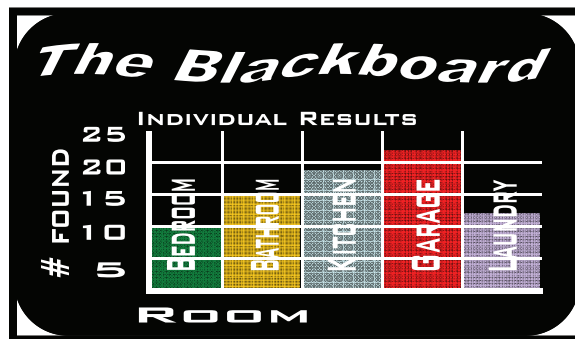
You've just created a 3-dimensional bar graph. Circle the room whose stack is tallest. What does being the tallest stack mean? *It was the room with the largest number of hazardous items.* Place a star next to the room whose stack is the shortest. What does that mean? *It was the room with the smallest number of hazardous items.*

Now, how can you put those results on your paper? In your group, discuss how you can transfer your 3D results to a 2D picture on the paper. Once you have come up with a way to transfer your results, try it. *Wait as students complete this task. Once they are done, collect Worksheet 1.2 and the pennies. Leave them Worksheet 1.1, the Scavenger Hunt paper.*



Graphing the World of Hazardous Products - 2 Dimensional

Now you don't have pennies. What if all you had was this sheet of paper, a pencil, and your results? *Pass out graph paper. Discuss with your group how you can graph your results. Once you think you've figured it out, try it with your personal results and your neighborhood results. Wait as students complete this task.*



I have copied the table from your worksheet onto our board. We're going to use our Neighborhood results to determine how many hazardous cleaners we found as a class. *Choose 1 or 2 students to tally classroom totals.*

	Cleaners	Pesticides	Total	Notes
Bed				
Bath				
Kitchen				
Garage				
Laundry				

OK, let's look at what dangerous items we found in our homes. Neighborhood 1, how many cleaners/pesticides did you find in each room? *Have student helpers make tally marks as they respond. Repeat for the other groups. Add the results together to create classroom total. Have students copy these results for their writing assignment.*

Based on our Tally Chart, we can identify where the most harmful cleaners/pesticides are located. Where is it? Place a CIRCLE around that number. Which room has the least? Place a STAR next to that number.



EXTRA! EXTRA! THINK ALL ABOUT IT!

LET'S REFLECT

1. Look at our classroom results. Compare them to your neighborhood results.
 - Which room contained the largest number of hazardous products in the classroom results? How did this compare to the neighborhood results?
 - Which room contained the smallest number of hazardous products in the classroom results? How did this compare to the neighborhood results?
 - Why do you think these differences occurred?
2. How did you feel when you realized that there are a number of things in your house considered harmful or hazardous?
3. Which had a bigger impact on you — seeing the total number of hazardous items in each room or the height differences in the bar graph? Why?
4. In the past two lessons, we have collected 2 types of data: what we thought (opinion) and what we observed (facts).
 - What was the difference in the process we used to collect the data?
 - Which data is more reliable? Why?

QUICK FACTS

Hazardous chemicals like those found in HHPs enter the body in 3 primary ways.



- **Absorption**
Many cleaners leave behind toxic chemical residue, which can be harmful to living tissue like skin.
- **Ingestion**
By touching a surface that has been exposed to chemicals and then putting that hand in their mouths, children can ingest the residue.
- **Inhalation**
Many HHPs give off unhealthy fumes and VOCs which can irritate the eyes, nose, and lungs.

To keep children safe from HHP poisonings, follow these basic steps:



- Keep all chemical products locked up and out of reach.
- Use products in well-ventilated areas to reduce risks from prolonged exposure.
- Keep all products in the original containers.
- Teach children how to read labels on cleaners and pesticides before using them. Look for words like:
 - Caution • Danger
 - Warning • Harmful
 - Flammable • Poison

These words indicate that the products are considered dangerous. The law requires these products to be used only for the purpose listed on their labels.

LET'S APPLY

1. What did you learn about the products used in your home? Your school? Your neighborhood?
2. How did using group data make your findings more reliable? Why are averages helpful when collecting data?
3. Could we estimate the amount of hazardous materials in our city, county, or country based on our findings? What would we need to know to calculate this information?
4. What impact do these products have on the environments now? How about in 5 years? 10 years? What can you do in your household to help reduce the harmful effects of household products?

IN TODAY'S EDITION...

FROM THE
EDITOR'S DESK

This assignment is part of a series of newspaper-related pieces each student will include in his/her own Children's Environmental Health Newspaper. At the conclusion of this unit, students will bring the newspapers home to educate parents and other family members about the possible dangers in their own environments.



Have students:



- Write a **NEWS STORY** to summarize the class-wide results from the Scavenger Hunt Activity.
- Create a small bar graph of the class-wide results to include as the graphic for their news story.
- Write a caption that describes the graph.

To aid students in creating the above newspaper pieces, provide them with the Editor's TIP SHEET on "Writing a News Story" and the Editor's TIP SHEET on "Using Graphics and Advertising."

Need more ideas? Below are activities that can be integrated into this lesson for a challenge or to simply provide variety.

- Have students estimate the amount of hazardous materials in their city, county, state, or country.

NOTES:



3-D Bar Graphs

_____ Name

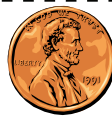
Creating a picture with pennies

Step 1: Fold this paper along the dotted line.

Step 2: Using the totals from your *Household Scavenger Hunt* worksheet, count up the number of hazards everyone in the group found. Count out 1 penny for each hazard the group found. So, if you found 10 hazards in the kitchen, make a stack of 10 pennies and place the stack in the spot for kitchen. Repeat this process for all 5 locations.

Number of Hazards

0



Bedrooms

Bathrooms

Kitchen

Garage

Laundry

