INVESTIGATION 1

WHAT DO PEOPLE KNOW ABOUT RADON?

INTRODUCTION

We all have opinions--but where do they come from? Some of them may be held firmly; others may be modified by increased understanding. Still others may not be based on valid data. Surveys provide useful and current information about people's opinions about relevant social issues such as radon. People differ in their perceptions about, and knowledge of, the health dangers associated with exposure to radon gas in the home. **In completing the following survey you will have an opportunity to identify your opinions and current level of understanding about radon.**

OBJECTIVE

To determine perceptions about radon, including its physical properties and its economic, social, and personal consequences.

MATERIALS

·Radon Survey

PROCEDURE

1. Complete the student survey (Radon Survey).
2. Take home one or two copies of the survey for your parent/guardians(s) to complete and return these completed surveys to class.

DATA COLLECTION

3. Enter the results of the surveys in a tally sheet format, as shown below:

Question	Response 1	2	3	Total	Mean*
1 Total People	////	////	//	10	
Point Value	1x4=4	2x4=8	3x2=6	18	1.80
2 Total People	~~//// //~~	/	//	10	
Point Value	1x7=7	2x1=2	3x2=6	15	1.50
Continue for all questions in the survey.					

* To compute the mean, divide the total point value by the total number of people (e.g., 18 points/10 people = 1.80 [Mean].)

Figure 1. Example showing tally sheet computations.

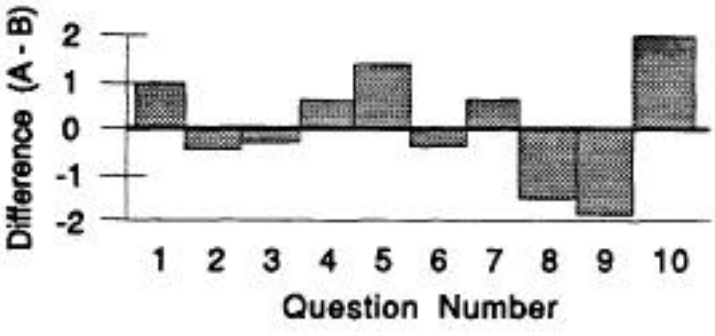
4. Calculate the difference between the mean score obtained for the students and the mean score obtained for the parents. Use the format shown below.

Question	Student Mean (A)	Parent Mean (B)	Difference (A - B)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Note: the difference (A - B) can be negative.

5. Plot a graph of your data, using a bar chart with graphing paper. Plot the difference between students and parents as bars on the y-axis and the question numbers on the x-axis.

Example bar chart:



Bar Chart

A bar chart provides a simple graphing technique to aid in the interpretation of data. The height of each bar above or below the zero-line (origin) of the vertical (y) axis corresponds to the magnitude of the variable of interest.

ANALYSIS (Your responses should be complete sentences.)

6. Which response(s) had the least amount of difference between students and parents? Why do you think there was that difference?

7. Which response(s) had the greatest amount of difference between students and parents? To what do you attribute this observation?

8. What does it mean when the difference kµu calculated gives a negative number?

CONCLUSIONS

9. What have you learned about radon that you did not know before the class discussion?

10. What do you think you need to find out about radon?

RADON SURVEY

Name: _____ Date: _____

Sex (circle one): Male Female

Age status (circle one): Student Parent

PROCEDURE: Complete the survey below by circling the response that most closely represents your feeling or perception about the question (1-Agree, 2-Neutral, 3-Disagree).

		Agree	Don't Know or Neutral	Disagree
1.	Radon is a health hazard.	1	2	3
2.	Radon causes bone cancer.	1	2	3
3.	Radon is a naturally-occurring radioactive gas.	1	2	3
4.	Radon enters homes mostly through windows, and cracks in ceilings and roofing.	1	2	3
5.	At high concentrations, radon can be detected by its smell	1	2	3
6.	Radon levels in a home are related to the air flows within the home.	1	2	3
7.	Significant amounts of radon come from natural gas and home furnishings.	1	2	3
8.	Tests to screen for radon are simple to perform and inexpensive.	1	2	3
9.	All traces of radon can easily and inexpensively be eliminated from a home.	1	2	3
10.	There is natural radiation around us all the time.	1	2	3