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**STUDENT PROBLEM SOLVING POST TEST – SECTION I**

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Imagine that the Oregon Health Division announced today that the small town of Mayville (an imaginary town!) has 10% more cancer cases than other towns of similar size in Oregon. As a citizen of Mayville, you are concerned about the announcement. Assume that you have the opportunity to participate in a student citizens' committee to examine this finding and to understand what, if anything, is different about Mayville.

Listed below are a number of possible explanations for why Mayville might have more cancer cases than other similar communities. For each reason, mark how important you think it might be in finding out why Mayville has more cancer cases than other towns.

79. Differences in the use of household chemicals between Mayville and other towns.

- A. Very Important
- B. Important
- C. Slightly Important
- D. Not Important
- E. Don't Know

80. Differences in the use of agricultural chemicals between Mayville and other towns.

- A. Very Important
- B. Important
- C. Slightly Important
- D. Not Important
- E. Don't Know

81. Differences in the lifestyles (e.g., diet, exercise) of the people who live in Mayville and the people who live in other towns.

- A. Very Important
- B. Important
- C. Slightly Important
- D. Not Important
- E. Don't Know

82. Differences in the natural environment (e.g., soils, water) of Mayville and the natural environment of other towns.

- A. Very Important
- B. Important
- C. Slightly Important
- D. Not Important
- E. Don't Know

83. Differences in how well scientific studies are done to determine the number of cancer cases in Mayville and in other towns.
- A. Very Important
  - B. Important
  - C. Slightly Important
  - D. Not Important
  - E. Don't Know
84. No explainable reason, just a matter of chance.
- A. Very Important
  - B. Important
  - C. Slightly Important
  - D. Not Important
  - E. Don't Know
85. Differences in the ages of people who live in Mayville and the people who live in other towns.
- A. Very Important
  - B. Important
  - C. Slightly Important
  - D. Not Important
  - E. Don't Know

Suppose that your committee wanted to do a study to determine whether or not the abandoned chemical plant site could be a cause of the cancers in Mayville. Listed below are a number of things that your committee can do. Read each one carefully and then indicate how informative it would be in helping solve the problem of why there are more cases of cancer in Mayville than other towns.

86. Look for empty containers at the abandoned chemical plant site.
- A. Very informative for helping solve the problem
  - B. Somewhat informative
  - C. Slightly informative
  - D. Not informative
87. Talk to local residents who may remember the chemical plant when it was active.
- A. Very informative for helping solve the problem
  - B. Somewhat informative
  - C. Slightly informative
  - D. Not informative
88. Have a soil test done to determine what chemicals may be in the soil.
- A. Very informative for helping solve the problem
  - B. Somewhat informative
  - C. Slightly informative
  - D. Not informative

89. Check the local library for newspaper reports about the plant.
- A. Very informative for helping solve the problem
  - B. Somewhat informative
  - C. Slightly informative
  - D. Not informative
90. Check the Internet for information about causes of cancer.
- A. Very informative for helping solve the problem
  - B. Somewhat informative
  - C. Slightly informative
  - D. Not informative
91. Determine where Mayville gets its water supply.
- A. Very informative for helping solve the problem
  - B. Somewhat informative
  - C. Slightly informative
  - D. Not informative

As part of the student citizens committee studying this problem, you have an opportunity to take on different roles as part of the committee's work. For each of the following roles, indicate how comfortable you would be:

92. Working with others on the committee to determine the problem.
- A. Very Comfortable
  - B. Slightly Comfortable
  - C. Slightly *Uncomfortable*
  - D. Very *Uncomfortable*
93. Talking with other community members about the problem.
- A. Very Comfortable
  - B. Slightly Comfortable
  - C. Slightly *Uncomfortable*
  - D. Very *Uncomfortable*
94. Helping with the technical or scientific parts of a study of the abandoned plant site.
- A. Very Comfortable
  - B. Slightly Comfortable
  - C. Slightly *Uncomfortable*
  - D. Very *Uncomfortable*

95. Preparing a report or summary of the committee's findings.
- A. Very Comfortable
  - B. Slightly Comfortable
  - C. Slightly *Un*comfortable
  - D. Very *Un*comfortable

Suppose the Oregon Health Division did a new study, and it showed only a 2% difference between the cancer rate in Mayville and other communities, rather than the 10% reported earlier.

96. Which study would you believe more, the first one (10% difference), or the second one (2% difference)?
- A. The first study (10% difference) is definitely right.
  - B. The first study is probably right.
  - C. They are both about the same.
  - D. The second study (2% difference) is probably right.
  - E. The second study is definitely right.
97. Listed below are some explanations for why the two studies might be different. Indicate which explanation you think is the best one.
- A. The *first* study is correct because it shows a higher cancer rate.
  - B. The *second* study is correct because it shows that Mayville is more like all the other communities.
  - C. Scientific studies are always changing their conclusions and you can never know which one is right.
  - D. The difference in the results of the two studies is due to chance.
  - E. Don't Know.

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**STUDENT PROBLEM SOLVING POST TEST – SECTION II**

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**Chemical Pesticides in the Environment:  
A Survey of Attitudes and Perceptions**

We are studying how students like you think about chemicals in the environment and particularly chemical pesticides. Chemicals are all around us and are a part of modern life. Some of these chemicals are natural ones and are the basic building blocks of all living things. In the strictest sense, for example, water is a chemical. However, in this survey, when we talk about chemicals we mean industrial chemicals that have been produced for use in commerce, agriculture and various consumer products. These include chemical products like plastics, gasoline, pharmaceutical drugs, food additives, cosmetics, and household cleaning products. Pesticides that are used in agriculture and in the home are also chemical products.

This is a survey of attitudes and perceptions. There are no right or correct answers, only your considered opinions. Read each of the items carefully and give us the best answer you can, given what you know or believe. (Mark one answer for each statement)

98. In general, chemical pesticides make life safer.

- A. Strongly Disagree
- B. Disagree
- C. Agree
- D. Strongly Agree
- E. Don't Know

99. Overall, chemical pesticides used in agriculture do more good than harm.

- A. Strongly Disagree
- B. Disagree
- C. Agree
- D. Strongly Agree
- E. Don't Know

100. Chemical pesticides sold for use by consumers in their homes are not a source of environmental health risk.

- A. Strongly Disagree
- B. Disagree
- C. Agree
- D. Strongly Agree
- E. Don't Know

101. If a chemical pesticide is released into the environment, then everyone in that environment is exposed to the chemical.

- A. Strongly Disagree
- B. Disagree
- C. Agree
- D. Strongly Agree
- E. Don't Know

102. For most of the chemicals I am exposed to in daily life, including chemical pesticides, I feel I know how to protect my health and safety.

- A. Strongly Disagree
- B. Disagree
- C. Agree
- D. Strongly Agree
- E. Don't Know

103. I have read and can understand most of the warning labels on chemical pesticides in my home.

- A. Strongly Disagree
- B. Disagree
- C. Agree
- D. Strongly Agree
- E. Don't Know

104. If a person is exposed to a chemical pesticide that can cause cancer in humans, then that person will probably get cancer someday.

- A. Strongly Disagree
- B. Disagree
- C. Agree
- D. Strongly Agree
- E. Don't Know

105. Risks from chemical pesticides usually seem larger to people who don't understand very much about science.

- A. Strongly Disagree
- B. Disagree
- C. Agree
- D. Strongly Agree
- E. Don't Know

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**STUDENT PROBLEM SOLVING POST TEST – SECTION III**

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**Science and Daily Life**

This survey asks your opinions about science and daily life. Please read each item carefully and indicate whether you “strongly disagree”, “disagree”, “agree”, or “strongly agree.”

106. I know how to use science to help make decisions that protect my health and safety.

- A. Strongly Disagree
- B. Disagree
- C. Agree
- D. Strongly Agree
- E. Don't Know

107. I am comfortable talking about science with other people.

- A. Strongly Disagree
- B. Disagree
- C. Agree
- D. Strongly Agree
- E. Don't Know

108. I am generally interested in new developments in science and technology.

- A. Strongly Disagree
- B. Disagree
- C. Agree
- D. Strongly Agree
- E. Don't Know

109. Science can help us make better decisions about how to protect the environment.

- A. Strongly Disagree
- B. Disagree
- C. Agree
- D. Strongly Agree
- E. Don't Know

110. Science can determine when exposure to human-made chemicals is safe or not safe for my family and me.

- A. Strongly Disagree
- B. Disagree
- C. Agree
- D. Strongly Agree
- E. Don't Know