

## Section 9.2

# Potential Problems with Collecting Data

Sidney! What is the best hockey team in the NHL?  
What is your favorite brand of hockey gear?

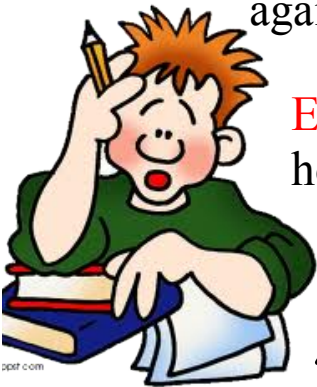


What may influence his response???

# Factors that MIGHT lead to Problems with Data Collection

## Bias

The question influences responses in favor of, or against the topic of the data collection.

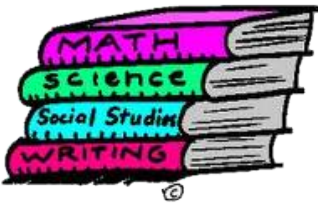


**Example:** "Don't you think teachers give too much homework?"

Bias against current amount of homework being assigned

## Use of Language

The use of language in a question could lead people to give a particular answer.



The above questions may influence people to respond "yes"

"DO YOU THINK" is a better way to start a question?

## Timing



WHEN the data is collected it could lead to particular results

"What is your favorite sport?"

Surveyed During Winter  
Response : Hockey



Surveyed During Summer  
Response : Baseball



## Privacy

If the topic of the data collection is personal a person may not want to participate or may give an untrue answer.

Example: "Can you read?"

Example: "Can you add fractions?"



## Cultural Sensitivity

You are aware of other cultures. You must avoid being offensive and asking questions that do not apply to that culture.

Example: Which holiday is your favorite?

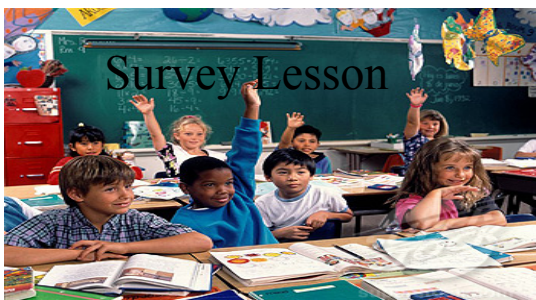
Circle one of the following:

Christmas      Easter

This question does not apply to all cultures.

## Ethics

Data is to only be used for the purpose that you told the participants. Otherwise, your actions are considered unethical.



Hi Mrs. Smith, this is Sally's teacher and I was informed today that Sally has cheated on a test.

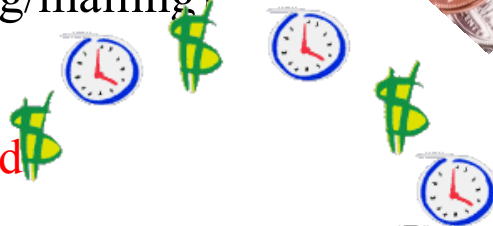
# Cost



The cost of collecting data must be taken into account

- making questionnaires (printing/mailing)
- collecting data (people/gas)

may be more than you can afford



# Time

The time needed for collecting the data must be considered.

- If a survey takes an hour to complete, it may not be completed. This would limit the number of people willing to participate.



# Identifying and Eliminating Potential Problems

## Example 1)

Explain why a problem may occur and the effect it would have on the results. Suggest how each could be avoided.

A survey is conducted to find out if citizens think the local government should provide more money for youth activities. The question asked was: "Would you support an increase in taxes to create more skated parks?"

Answer: <sup>erase</sup> Language use could be problematic. The question emphasizes what citizens would lose; that is, their taxes would increase.

The question downplays what citizens would gain by only mentioning skate parks, instead of a variety of activities.

Response would be swayed toward "no"

**Better Question** "Do you think the local government should supply more funds for the youth recreational activities?"



# Analyzing Data Collection for Problems

Example 2)

Kublu and Irniq plan to open a shop in Saskatoon that would sell traditional Inuit crafts. To ensure Saskatoon is the best place for their business, they want to survey residents to find out how popular Inuit crafts are. Kubula knows that they would get the most accurate results if each household in Saskatoon is surveyed, but Irniq points out that this is problematic. Explain why.

Erase

Answer: Cost and time may be problems.

The cost of printing and mailing enough surveys for each household would be very high. Also they would have to provide a return envelope with stamp for each household.

The time it would take to print, mail and collect the survey for each household would take too long.

# Overcoming Potential Problems

Example 3)

Antonio wants to find out if there is a relationship between household income and how much people spent on Christmas presents. Identify potential problems antonia may encounter, and explain how he could deal with the problems.



Answer: erase

- Christmas is not celebrated by all cultures thus the survey does not apply to all
- An appropriate opening question might be: "Do you celebrate Christmas?" If response is "No", then he or she will no need to answer the qther questions in the surevy.
- Income information is personal, so people may be uncomfortable revealing the correct answer. (An annonymous survey would be appropriate)
- The use of language may influence responses.
  - Inapprpriate or intrusive questions would be:
    - "How much do you make"
    - "How much do you spend?"
  - A better question would be:
    - "Is the amount you spend on Christmas presents:
      - greater than your weekly income?
      - less than your weekly income?
      - equal to your weekly income?



Page 434 # 3 - 10