

## HIV/AIDS SURVEY

### Performance Standards (10A/10B).J

Create, analyze and present results of recent data concerning the causes of HIV/AIDS:

- *Mathematical knowledge*: analyze data from an existing survey to obtain accurate conclusions based on data and population.
- *Strategic knowledge*: determine sampling techniques to elicit information.
- *Explanation*: explain completely what was done and why it was done.

### Procedures

1. ***In order to organize, describe and make predictions from existing data (10A) and formulate questions, recognize data collection methods, analyze data and communicate findings (10B)***, provide health occupations students with sufficient learning opportunities to develop the following:
  - Present results and conclusions from given data using basic statistics (e.g., measures of central tendencies, standard deviation).
  - Describe the differences among various kinds of studies and which types of inferences can legitimately be drawn from each.
  - Describe how sample statistics reflect the values of population parameters and use sampling distributions as the basis for informal inference.
  - Interpolate, extrapolate and make predictions from given information.Students entering health occupations need to understand basic statistics (e.g., measures of central tendencies, sample techniques and population parameters) and how to use this mathematical skill as it applies to the various health care settings (e.g., research). This standard aligns with the National Skills Standard Therapeutic/Diagnostic Care (Health Maintenance Practices).
2. Students are given the task sheet “HIV/AIDS Survey” and asked to develop a question they can answer based on preexisting data, analyze the data and present results.
3. A 4 in mathematics knowledge would require a completed survey that gathers usable data and a presentation with accurate conclusions based on the data and the population. A 4 in strategic knowledge would require a sampling technique that appropriately elicits the desired information. A 3 may be awarded if the sampling technique was appropriate but, for a reason the student can explain, did not work well. A 4 in explanation would require a complete explanation of the choice of sampling technique, analysis and conclusions.

### Examples of Student Work

- [Meets](#)
- [Exceeds](#)

### Time Requirements

- Several days will be needed to examine data that is available, determine questions to address and analyze and present results

### Resources

- Copies of the “HIV/AIDS Survey” task sheet
- Access to the Web site – [www.cdc.org](http://www.cdc.org)
- Mathematics Rubric

NAME \_\_\_\_\_ DATE \_\_\_\_\_

## HIV/AIDS SURVEY

### Student Task Sheet

Your health occupations instructor wants to interpret data from a survey of your high school students regarding causes of gathered by researchers who have conducted a survey regarding HIV/AIDS. Examine the data reports found on the Center for Disease Control's website, then complete the following tasks.

1. Describe the sampling technique that was used by the researchers. Describe in words how and why the researcher chose this particular sampling technique. Evaluate this data collection method. If a survey was used, include a discussion about the clarity, bias, return rate and any specialized audiences.
2. Describe the portion of the population that was sampled. Discuss the number of responses that are needed to consider the data as a reliable sample size that is representative of the general population. Decide whether or not this data should be considered representative of the general population, and support your reasoning.
3. Create a set of questions that can be answered by analyzing the data available on the website, and that focus on the most common causes of HIV/AIDS and how this disease is transmitted (e.g. unsafe sex, unclean needles, blood transfusions).
4. Present the data you found to address your questions, as well as your analysis, results and conclusions based on this data in an organized form.
5. Evaluate the usefulness of this data source for answering your questions.

## MATHEMATICS RUBRIC

NAME \_\_\_\_\_ DATE \_\_\_\_\_

- Exceeds standard (must receive a 4 in each area)
- Meets standard (must receive all 3's or a combination of 3's and 4's)
- Approaches standard (must receive all 2's or any combination which may include a 3 or a 4)
- Begins standard (has no 3's or 4's but not all 1's)
- Absent (has all 1's and 0's)

	<b>Mathematical Knowledge</b>	<b>Strategic Knowledge</b>	<b>Explanation</b>
<b>4</b>	<ul style="list-style-type: none"> <li>• Wrote the right answer.</li> <li>• Used math words correctly to show understanding of how math works.</li> <li>• Worked it out with no mistakes.</li> <li>• Used the right math words and labeled the answers.</li> </ul>	<ul style="list-style-type: none"> <li>• Identified all the important parts of the problem, and knew how they went together.</li> <li>• Showed all the steps used to solve the problem.</li> </ul>	<ul style="list-style-type: none"> <li>• Wrote what was done and why it was done.</li> <li>• If a drawing was used, all of it was explained in writing.</li> </ul>
<b>3</b>	<ul style="list-style-type: none"> <li>• Knew how to do the problem, but made small mistakes.</li> </ul>	<ul style="list-style-type: none"> <li>• Identified most of the important parts of the problem.</li> <li>• Showed most of the steps used to solve the problem.</li> </ul>	<ul style="list-style-type: none"> <li>• Wrote mostly about what was done.</li> <li>• Wrote a little about why it was done.</li> <li>• If a drawing was used most of it was explained in writing.</li> </ul>
<b>2</b>	<ul style="list-style-type: none"> <li>• Understood a little, but made a lot of big mistakes.</li> </ul>	<ul style="list-style-type: none"> <li>• Identified some of the important parts of the problem.</li> <li>• Showed some of the steps used to solve the problem.</li> </ul>	<ul style="list-style-type: none"> <li>• Wrote some about what was done or why it was done but not both.</li> <li>• If a drawing was used, some of it was explained in writing.</li> </ul>
<b>1</b>	<ul style="list-style-type: none"> <li>• Tried to do the problem, but didn't understand it.</li> </ul>	<ul style="list-style-type: none"> <li>• Identified almost no important parts of the problem.</li> <li>• Showed almost none of the steps used to solve the problem.</li> </ul>	<ul style="list-style-type: none"> <li>• Wrote or drew something that didn't go with the answer.</li> <li>• Wrote an answer that was not clear.</li> </ul>
<b>0</b>	<ul style="list-style-type: none"> <li>• No answer attempted.</li> </ul>	<ul style="list-style-type: none"> <li>• No strategy shown.</li> </ul>	<ul style="list-style-type: none"> <li>• No written explanation.</li> </ul>
<b>Score</b>			