SIRS Common Core Guide: Understanding Statistics

Step 1: Statistics 101

Find Statistics

1. Find Reputable Sources

Go to Research Tools of any Leading Issue and click on Statistics. List two examples:

Example 1: __________________________

Example 2: __________________________

Step 2: Analyze Statistics

Select one of your examples from step one to analyze.

1. Source

List the source of the article: __________________________

Is the source credible? Is it biased? Explain. __________________________

2. Author

List the author of the article: __________________________

Is the author credible? Is the author biased? Explain. __________________________

Common Core Standard*

CCSS.Math.Content.HSS.IC.A.1 Understand statistics as a process for making inferences about population parameters based on a random sample from that population.

What Is Statistics?

Statistics is a branch of mathematics concerned with the collection and interpretation of data.

Sample

Need Help?

Credibility and Bias

- **Credible Sources** are most often official organizations, while **Credible Authors** are most often trusted journalists or experts in a field.
- **Bias** is prejudice in favor of or against one thing, person, or group compared with another, usually in a way considered to be unfair.


Step 2: Analyze Statistics (Cont’d)

<table>
<thead>
<tr>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>There were fewer than 17 abortions for every 1,000 women in 2011, a date year for which figures were available, according to a paper published Monday by the Guttmacher Institute, a pro-choice rights think tank. The rate was percent from 2008 and a little higher than the percent in 2000.</td>
</tr>
</tbody>
</table>

3. **Organization**

List the organization that conducted the study:

________________________________________________________________________

Is the organization credible? Is the organization biased? Explain.

________________________________________________________________________

4. **Date**

What timeframe does the study cover?

________________________________________________________________________

Is the study still relevant? Explain.

________________________________________________________________________

5. **Context**

Were there any relevant events at the time of the study?

________________________________________________________________________

________________________________________________________________________

Explain how those events may have affected the study?

________________________________________________________________________

________________________________________________________________________

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Step 2: Analyze Statistics (Cont’d)

6. Representation

How are the statistics represented?

_________________________________________________________________________________

Does this representation affect the study’s interpretation? Explain.

_________________________________________________________________________________

7. Methodology

Does the study make assumptions or omit anything?

_________________________________________________________________________________

How might these assumptions or omissions affect the outcome of the study?

_________________________________________________________________________________

Sample

Guttmacher approaches the task differently, conducting a periodic census by mailing a questionnaire to all known abortion providers. It follows up over the phone with those who do respond and uses reports from health departments and other data to fill any remaining gaps. This study was published in the March issue of the

8. Compare and Contrast

Find an alternative source that cites a similar study.

_________________________________________________________________________________

Compare and contrast the two studies and explain their similarities and/or differences.

_________________________________________________________________________________
Step 3: Apply Knowledge

Interpret Statistics

1. Evaluate Credibility

List the credible and/or unreliable aspects of the study based on your research.

<table>
<thead>
<tr>
<th>Credible</th>
<th>Unreliable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1.</td>
</tr>
<tr>
<td>2.</td>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
<td>3.</td>
</tr>
<tr>
<td>4.</td>
<td>4.</td>
</tr>
</tbody>
</table>

2. Make Your Argument

- Source
- Author
- Organization
- Date
- Context
- Representation
- Methodology
- Compare and Contrast

Draw conclusions about the statistics using your research. Include as many elements as you can from the checklist above to defend your argument.

________________________________________________________________________________
________________________________________________________________________________
________________________________________________________________________________
________________________________________________________________________________