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| **LG #** | **L212** | **Standards:** | **S-IC.1.1, S-IC.1.2, S-IC.2.3, S-IC.2.4, S-IC.2.5, S-IC.2.6** |
| **4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond instruction to the standard.**  **The student will be able to:**   * Design an unbiased method to collect data. * Analyze and critique the data collection process, including flaws and biases, from published performed experiments, observational studies, and surveys.   **No major errors or omissions regarding the score 4.0 content.** | | |
| **3.5** | In addition to 3.0, in-depth inferences and applications with partial success. | | |
| **3.0** | **Students will be able to use surveys, experiments and observational studies to summarize data, make inferences and justify statistical conclusions.**  **The student will be able to:**   * Understand statistics as a process for making inferences about population parameters based on a random sample from that population. (S-IC.1.1) * Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. (S-IC.1.2) * Explain how randomization relates to sample surveys, experiments, and observational studies. (S-IC.2.3) * Develop a margin of error through the use of simulation models for random sampling. (S-IC.2.4) * Use simulations to decide if differences between parameters are significant.   (S-IC.2.5)   * Evaluate reports based on data. (S-IC.2.6)   **No major errors or omissions regarding the score 3.0 content (simple or complex).** | | |
| **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of 3.0 content. | | |
| **2.0** | **The student recognizes and describes specific terminology such as:**   |  |  |  | | --- | --- | --- | | * Mean | * Normal Distribution | * Simulation | | * Standard Deviation | * Random sampling | * Proportion | | * Variance | * Symmetry | * Margin of Error | | * Normal Distribution * Population * Sample | * Statistical Significance * Bias * Parameter | * Confidence Interval * Z-Score * Statistic |   **The student will be able to:**   * Recognize the purposes of and differences among sample surveys, experiments, and observational studies. (S-IC.2.3) * Use data from a sample survey to estimate a population mean or proportion. (S-IC.2.4) * Use data from a randomized experiment to compare two treatments. (S-IC.2.5) | | |
| **1.5** | Partial knowledge of the score 2.0 content, but major errors or omissions regarding score 3.0 content. | | |
| **1.0** | With partial understanding of some of the simpler details and processes and some of the more complex ideas and processes. | | |
| **0.5** | With help, a partial understanding of some of the simpler details and processes and some of the more complex ideas and processes. | | |
| **0.0** | Even with help, no understanding or skill is demonstrated | | |