Task: Road to the Stanley Cup

Strand
Data Management

Student Text Pages
162–163

Suggested Timing
80–160 min

Tools
• grid paper

Related Resources
BLM 3-19 Chapter 3 Task: Road to the Stanley Cup Rubric
BLM G-1 Grid Paper

Accommodations

Motor—allow extra time and assist with recording of calculations

Language—allow students to work with a partner to ensure students understand what they are being asked to do. Have them provide some responses orally to check for comprehension

Specific Expectations

Working With One-Variable Data

DM1.04 describe and compare sampling techniques (e.g., random, stratified, clustered, convenience, voluntary); collect one-variable data from primary sources, using appropriate sampling techniques in a variety of real-world situations; and organize and store the data
DM1.05 identify different types of one-variable data (i.e., categorical, discrete, continuous), and represent the data, with and without technology, in appropriate graphical forms (e.g., histograms, bar graphs, circle graphs, pictographs)
DM1.06 identify and describe properties associated with common distributions of data (e.g., normal, bimodal, skewed)
DM1.07 calculate, using formulas and/or technology (e.g., dynamic statistical software, spreadsheet, graphing calculator), and interpret measures of central tendency (i.e., mean, median, mode) and measures of spread (i.e., range, standard deviation)
DM1.08 explain the appropriate use of measures of central tendency (i.e., mean, median, mode) and measures of spread (i.e., range, standard deviation)
DM1.09 compare two or more sets of one-variable data, using measures of central tendency and measures of spread
DM1.10 solve problems by interpreting and analyzing one-variable data collected from secondary sources.

Applying Probability

DM2.05 determine, through investigation using class-generated data and technology-based simulation models (e.g., using a random number generator on a spreadsheet or on a graphing calculator), the tendency of experimental probability to approach theoretical probability as the number of trials in an experiment increases (e.g., "If I simulate tossing a coin 1000 times using technology, the experimental probability that I calculate for tossing tails is likely to be closer to the theoretical probability than if I only simulate tossing the coin 100 times")
DM2.06 interpret information involving the use of probability and statistics in the media, and make connections between probability and statistics (e.g., statistics can be used to generate probabilities)

Teaching Suggestions

- Have students read the entire Task. Discuss the Task and ensure students understand what they are being asked to do.
- Discuss strategies and review necessary skills and concepts for solving the problem.
- Circulate as students complete the task and assist them as necessary.

Prompts for Getting Started

- Have students follow the key sequences on page 162 of the student book to generate random numbers.
- Circulate to ensure any students who are having difficulty with their graphing calculator receive assistance.

Hints for Evaluating a Response

Student responses are being assessed for the level of mathematical understanding they represent. As you assess each response, consider these questions:

- How much assistance did the student need to understand what information was required?
- How much assistance did the student need to complete the Task?
- What parts of the Task did the student complete/not complete?
- Did the student present work that is clear and easy to follow and understand?
- Did the student demonstrate an understanding of the most appropriate type of graph?
- Did the student demonstrate an understanding of the measures of central tendency for this data?
- Did the student demonstrate an understanding of how to make predictions based on results?

Level 3 Sample Response

Answers may vary.

Level 3 Notes

Look for the following:

- appropriate choice of graph to compare the number of times the Leafs win the series to the number of times they lose the series
- understanding of the measures of central tendency and which mesures best represent the data
- understanding of problem-solving techniques
- organised presentation of information with clear justification provided for choices
- effective use of probability and statistics terminology

What Distinguishes Level 2

Look for the following:

- some appropriate choice of graph to compare the number of times the Leafs win the series to the number of times they lose the series with some significant errors
- some understanding of the measures of central tendency and which measures best represent the data
- some understanding of problem-solving techniques, but difficulty in applying the techniques
- somewhat organised presentation of information and some justification for choices
- somewhat effective use of probability and statistics terminology

What Distinguishes Level 4

Look for the following:

- appropriate choice of graph with detailed justification to compare the number of times the Leafs win the series to the number of times they lose the series
- thorough understanding of the measures of central tendency and which measures best represent the data
- highly effective understanding of problem-solving techniques
- highly organised presentation of information with clear justification provided for choices
- highly effective use of probability and statistics terminology

Ongoing Assessment

- Use **BLM 3-19 Chapter 3 Task: Road to the Stanley Cup Rubric** to assess student achievement.