



# NUMERACY

## Manage Data and Probability (LBS) – Data Analysis Math (ES)



### Literacy and Basic Skills Levels

Manage Data and Probability				
<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>
The learner collects and sorts a small number of simple data, displays these data on given charts and pictographs, and discusses these displays of data. The learner uses everyday language to discuss probability as part of familiar experience.	The learner conducts surveys using self-generated questions, selects appropriate graphic organizers to sort data, and constructs simple bar graphs to display data. The learner interprets data on graphs and tables, and expresses understanding in a variety of ways. The learner predicts the results of simple probability experiments and carries them out.	The learner designs and carries out experiments to test hypotheses and uses data in databases and spreadsheets to solve problems. The learner explains sampling techniques, and recognizes misuse of data in advertising and news reports. The learner calculates complex probabilities and applies probability in a variety of contexts.	The learner designs and conducts surveys, records results on tally charts and spreadsheets, and displays data on labeled graphs. The learner calculates the mean and mode of a set of data, and identifies the important features of data collected by others. The learner conducts simple probability experiments and uses the results to make decisions.	The learner collects and organizes data from primary and secondary sources, and decides on the best method of display. The learner identifies trends, calculates measures of central tendency, and makes inferences, and convincing arguments based on a variety of displays of data. The learner conducts probability experiments, compares theoretical and actual results, and applies probability in familiar contexts.

### Essential Skills Complexity Levels

Data Analysis Math		
<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
<p>Make simple comparisons such as identifying what is higher or lower, bigger or smaller.</p> <p><b>Examples:</b></p> <ul style="list-style-type: none"> <li>• <i>Gas utility maintenance workers</i> determine locations of leaks by comparing variations in gas readings at different points.</li> <li>• <i>Post office clerks</i> record transactions daily and compare the monthly volume of various kinds of transactions.</li> </ul>	<p>Calculate basic summary measures, e.g., averages.</p> <p><b>Examples:</b></p> <ul style="list-style-type: none"> <li>• <i>Ferry operators</i> count different kinds of vehicles using the ferry and calculate monthly averages by user group/</li> <li>• <i>Financial advisors</i> calculate average rates of return on investments to prepare financial plans for clients.</li> </ul>	<p>Calculate averages across sets of readings, compare them to acceptable ranges and draw conclusions for such activities as statistical quality control and applying principles of probability.</p> <p><b>Examples:</b></p> <ul style="list-style-type: none"> <li>• <i>Dieticians</i> calculate average fluids consumed by patients over seven-day periods to recommend adaptations to diets.</li> <li>• <i>Bolt machine operators</i> perform Statistical Process Control calculations and make adjustments to machines if the data are outside acceptable ranges. They also graph the data each hour.</li> </ul>