# Grades 4-8 Atlantic Canada
# Data Management Curriculum Outcomes
# and Related Statistics Canada Internet Resources on www.statcan.ca

## Grade 4

| Specific Grade 4 Curriculum Outcome | Related Statistics Canada Resources |
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| **F1** Recognize and use a variety of methods for the collection and organization of data | Lesson Plans:<br>• What is the average height of your class?<br>• The Vitruvian theory – does it apply to you?<br>• You are the researcher!<br><br>Teacher Resources:<br>• Statistics: Power from Data!: Data collection<br>• Household Environment Survey – School Edition |
| **F2** Describe data maxima, minima, range and frequency | Teacher Resources:<br>• Statistics: Power from Data!: Data Collection<br>• Statistics: Power from Data!: Range and quartiles |
| **F3** Read and interpret bar graphs, line graphs, pictographs and stem-and-leaf plots | Lesson Plans:<br>• What is the average height of your class?<br>• The Vitruvian theory – does it apply to you?<br>• Canada recycles! Do you?<br><br>Teacher Resources:<br>• Statistics: Power from Data!: Bar graphs<br>• Statistics: Power from Data!: Line graphs<br>• Statistics: Power from Data!: Pictographs<br>• Statistics: Power from Data!: Stem and leaf plots |
| **F5** Construct bar graphs, pictographs and stem-and-leaf plots | Lesson Plans:<br>• Canada recycles! Do you?<br>• Circle and bar graphs<br>• Travel to school<br>• What is the average height of your class?<br>• The Vitruvian theory – does it apply to you?<br><br>Teacher Resources:<br>• Statistics: Power from Data!: Bar graphs<br>• Statistics: Power from Data!: Pictographs<br>• Statistics: Power from Data!: Stem and leaf plots |

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| **F6** Interpolate data from a display | |
| **F7** Describe data, using the mean | Lesson Plans:<br>• How many people live in a Canadian household?<br>• What is the average height of your class?<br><br>Teacher Resources:<br>• Statistics: Power from Data!: Calculating the mean |
| **F8** Explore real-world issues of interest to students and for which data collection is necessary to determine an answer | Lesson Plans:<br>• You Are the Researcher<br>• The Vitruvian theory—does it apply to you?<br><br>Websites:<br>• Census at School<br>• E-STAT<br>• Community Profiles |

**Grade 5**

| **Specific Grade 5 Curriculum Outcome** | **Related Statistics Canada Resources** |
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| **F1** Use double bar graphs to display data | Lesson Plans:<br>• Canada recycles! Do you?<br><br>Teacher Resources:<br>• Statistics: Power from Data!: Bar graphs |
| **F2** Use bar graphs to display and interpret data | Lesson Plans:<br>• Circle and bar graphs<br>• Canada recycles! Do you?<br><br>Teacher Resources:<br>• Statistics: Power from Data!: Bar graphs |
| **F3** Use coordinate graphs to display data | Teacher Resources:<br>• Statistics: Power from Data!: Graph types |
| **F4** Create and interpret line graphs | Teacher Resources:<br>• Statistics: Power from Data!: Line graphs |
| **F5** Group data appropriately and use stem-and-leaf plots to describe the data | Lesson Plans:<br>• Travel to school<br><br>Teacher Resources:<br>• Statistics: Power from Data!: Stem and leaf plots |
| **F6** Recognize and explain the effect of certain changes in data on the mean of that data | Teacher Resources:<br>• Statistics: Power from Data!: Calculating the mean |

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| **F7** Explore relevant issues for which data collection assists in reaching conclusions | Lesson Plans:<br>• You Are the Researcher<br>• The Vitruvian theory—does it apply to you?<br><br>Websites:<br>• Census at School<br>• E-STAT<br>• Community Profiles |

**Grade 6**

| **Specific Grade 6 Curriculum Outcome** | **Related Statistics Canada Resources** |
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| **F1** Choose and evaluate appropriate samples for data collection | Teacher Resources:<br>• Statistics: Power from Data!: Sampling methods<br>• Statistics: Power from Data!: Sampling error<br>• Statistics: Power from Data!: Data, information and statistics |
| **F2** Identify various types of data sources | Teacher Resources:<br>• Statistics: Power from Data!: Data, information and statistics |
| **F4** Use bar graphs, double bar graphs, and stem-and-leaf plots to display data | Lesson Plans:<br>• You are what you eat!<br>• Travel to school<br>• Circle and bar graphs<br>• Canada recycles! Do you?<br><br>Teacher Resources:<br>• Statistics: Power from Data!: Bar graphs<br>• Statistics: Power from Data!: Stem and leaf plots |
| **F5** Use circle graphs to represent data proportionally | Lesson Plans:<br>• Circle and bar graphs<br>• Travel to school<br><br>Teacher Resources:<br>• Statistics: Power from Data!: Pie charts |
| **F6** Interpret data represented in scatterplots | Lesson Plans:<br>• Data Management using E-STAT<br>• The Vitruvian theory—does it apply to you?<br><br>Teacher Resources:<br>• Statistics: Power from Data!: Scatterplots |

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| **F7** Make inferences from data displays | |
| **F8** Demonstrate an understanding of the differences among mean, median, and mode | Lesson Plans:<br>• What is the Average Height of Your Class?<br>• How many people live in a Canadian household?<br>• Canadians Your Age: Analysis of the 10-to-14 age group using E-STAT<br><br>Teacher Resources:<br>• Statistics: Power from Data!: Measures of central tendency |
| **F9** Explore relevant issues for which data collection assists in reaching conclusions | Lesson Plans:<br>• You are the researcher!<br>• The Vitruvian theory—does it apply to you?<br>• How weird is our class?<br><br>Websites:<br>• Census at School<br>• E-STAT<br>• Community Profiles |

**Grade 7**

| **Specific Grade 7 Curriculum Outcome** | **Related Statistics Canada Resources** |
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| **F1** Communicate through example the distinction between biased and unbiased sampling, and first- and second-hand data | Lesson Plans:<br>• Bias or No Bias?<br><br>Teacher Resources:<br>• Statistics: Power from Data!: Sampling error<br>• Statistics: Power from Data!: Data, information and statistics |
| **F2** Formulate questions for investigation from relevant contexts | Lesson Plans:<br>• You are the researcher!<br>• The Vitruvian theory—does it apply to you?<br>• How weird is our class?<br><br>Teacher Resources:<br>• Statistics: Power from Data!: Questionnaire design |

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| **F3** Select, defend, and use appropriate data collection methods and evaluate issues to be considered when collecting data | Lesson Plans:<br>• Survey says? Who says?<br><br>Teacher Resources:<br>• Statistics: Power from Data!: Data Collection |
| **F4** Construct a histogram | Lesson Plans:<br>• Canadians Your Age: Analysis of the 10-to-14 age group using E-STAT<br><br>Teacher Resources:<br>• Statistics: Power from Data!: Histograms and histographs<br><br>Websites:<br>• E-STAT |
| **F5** Construct appropriate data displays, grouping data where appropriate and taking into consideration the nature of the data | Teacher Resources:<br>• Statistics: Power from Data!: Graph types |
| **F6** Read and make inferences for grouped and ungrouped data displays | Teacher Resources:<br>• Societal Indicators<br>• Family Studies Kit |
| **F7** Formulate statistics projects to explore current issues from within mathematics, other subject areas, or the world of students | Lesson Plans:<br>• How weird is our class?<br>• Comparing the health and lifestyles of 13 year-olds around the world<br>• Comparing the food choices and body image of 15-year-olds around the world<br><br>Websites:<br>• Community Profiles<br>• E-STAT<br>• Census at School |
| **F8** Determine measures of central tendency and how they are affected by data presentations and fluctuations | Lesson Plans:<br>• How many people live in a Canadian household?<br>• Canadians Your Age: Analysis of the 10-to-14 age group using E-STAT<br><br>Teacher Resources:<br>• Statistics: Power from Data!: Measures of central tendency |

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| **F9** Draw inferences and make predictions based on the variability of data sets, using range and examination of outliers, gaps and clusters. | Lesson Plans:<br>• How many people live in a Canadian household?<br>• Canadians Your Age: Analysis of the 10-to-14 age group using E-STAT<br><br>Teacher Resources:<br>• Statistics: Power from Data!: Measures of central tendency |

**Grade 8**

| **Specific Grade 8 Curriculum Outcome** | **Related Statistics Canada Resources** |
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| **F1** Demonstrate an understanding of the variability of repeated samples of the same population | Lesson Plans:<br>• How many people live in a Canadian household? |
| **F2** Develop and apply the concept of randomness | |
| **F3** Construct and interpret circle graphs | Lesson Plans:<br>• Travel to school<br>• Circle and bar graphs<br>• Girls vs. Boys - Graphing exercise using E-STAT<br><br>Teacher Resources:<br>• Statistics: Power from Data!: Circle graphs |
| **F4** Construct and interpret scatter plots and determine a line of best fit by inspection | Lesson Plans:<br>• Data Management Using E-STAT<br>• Analyzing provincial forestry practices using bar graphs and scatter graphs<br>• Canadians Your Age: Analysis of the 10-to-14 age group using E-STAT<br>• Linear modelling of the life expectancy of Canadians<br>• When will the average Canadian live to be 100?<br>• The Vitruvian theory—does it apply to you?<br><br>Teacher Resources:<br>• Statistics: Power from Data!: Scatterplots |
| **F5** Construct and interpret box-and-whisker plots | Teacher Resources:<br>• Statistics: Power from Data!: Constructing box and whisker plots |

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| **F6** Extrapolate and interpolate information from graphs | Lesson Plans:<br>• Canada at a Glance<br><br>Teacher Resources:<br>• Canada at a Glance booklet<br>• Statistics: Power from Data!: Graph types<br><br>Websites:<br>• Census at School<br>• E-STAT<br>• Community Profiles |
| **F7** Determine the effect of variations in data on the mean, median, and mode | Lesson Plans:<br>• How many people live in a Canadian household?<br>• Canadians Your Age: Analysis of the 10-to-14 age group using E-STAT<br><br>Teacher Resources:<br>• Statistics: Power from Data!: Measures of central tendency |
| **F8** Develop and conduct statistics projects to solve problems | Lesson Plans:<br>• You are the researcher!<br>• The Vitruvian theory—does it apply to you?<br>• How weird is our class?<br><br>Websites:<br>• Census at School<br>• E-STAT<br>• Community Profiles<br>• Societal Indicators |