Chart This (Spreadsheet) **ICT.12**

TIME
90 minutes

OVERVIEW
Students use a spreadsheet to record and graph information about common characteristics, traits, and/or tastes of their classmates. This learning experience can be adapted to record and graph data from any current unit of study.

LEARNING OUTCOMES
Through this learning experience (LE), students will achieve specific learning outcomes (SLOs) in various subject areas. Consider the intent of this LE and your choice of instructional and assessment strategies to determine which SLOs students may achieve, in addition to those identified.

English Language Arts
Consider the intent of this LE and your choice of instructional and assessment strategies to determine which SLOs students may achieve, in addition to those identified below:
- 3.1.2 *Ask Questions* — Formulate relevant questions to focus information needs for an inquiry.
- 3.1.4 *Create and Follow a Plan* — Create and follow a plan to collect and record information within a pre-established time frame.
- 3.3.2 *Record Information* — Make notes on a topic, combining information from more than one source; reference sources appropriately.
- 5.2.1 *Cooperate with Others* — Assist group members to maintain focus and complete tasks; identify and solve group process issues.
- 5.2.2 *Work in Groups* — Select and assume roles to assist in the achievement of group goals; engage in ongoing feedback.

Mathematics
Consider the intent of this LE and your choice of instructional and assessment strategies to determine which SLOs students may achieve, in addition to those identified below:
- SP-III.1.6 Analyze sets of data to make comparisons.
- SP-III.2.6 Display data by hand or by computer in a variety of ways, including: histograms, double-bar graphs, stem-and-leaf plots.
- SP-IV.1.6 Read and interpret graphs, which are provided.
- SP-IV.2.6 Make inferences to generate a conclusion about the data.

ICT LITERACY SKILLS AND COMPETENCIES
Consider the intent of this LE and your choice of instructional and assessment strategies to determine which skills and competencies students may achieve, in addition to those identified below:
- basic operating skills
- spreadsheet analysis

SUGGESTED LEARNING RESOURCES
Software
- spreadsheet

Print
- Appendix C: Index of Teaching and Learning Strategies and Tools

BLMs
- BLM ICT.1#3: Survey of Information and Communication Technology (ICT) Skills
- BLM OLE.5#2: Share the Learning Journal
- BLM OLE.8#2: What Have I Learned?

TBLMs
- TBLM ICT.2#1: Skill Know-How Checklist
- TBLM ICT.10#1: Questioning
- TBLM OLE.2#1: Daily Edit Concept Chart
- TBLM Mod.2.6#1: Steps for Developing a Survey

SUGGESTIONS FOR INSTRUCTION

Preparation and Set-up
- Become familiar with the functions of the spreadsheet software installed on the class computers.
- Create a sample spreadsheet file and use it to demonstrate the software. As an example of an authentic use of a spreadsheet, make a spreadsheet of students' ICT skills, collected from BLM ICT.1#3: Survey of Information and Communication Technology (ICT) Skills. Use codes or numbers rather than student names.
- Review the database of students' ICT skills, as expressed on BLM ICT.1#3: Survey of Information and Communication Technology (ICT) Skills, to identify possible student helpers for ICT.12: Chart This.
- Customize TBLM ICT.2#1: Skill Know-How Checklist for this ICT to make ongoing observations of students' skills.

Activating Strategies
- Ask a few students to state their favourite food, subject, or activity.
- Students predict what will be the most popular food, subject, or activity.
- Survey all students in the class for their favourite food, subject, or activity.
- Discuss ways of recording the survey data and displaying the results.
- Using a computer and a projection system, demonstrate the characteristics of a spreadsheet (using the previously created spreadsheet file of students' ICT skills, or any other appropriate data). Point out similarities with word processing and other software students are already using.

Acquiring Strategies
- Create a new spreadsheet file. Enter the information gathered about favourite food, subject, or activity in the new spreadsheet file, modelling the use of the software to students.
- Students discuss what kind of graph will best display the spreadsheet data.
- Use the graphing function of the spreadsheet application to display the results visually and to show students how to use the graphing function.

Applying Strategies
- In collaborative groups (see OLE.10: Electronic Collection), students decide on a topic for a survey to conduct within the class about a characteristic (e.g., number of persons in family),

trait (e.g., hair colour, height), or taste (e.g., favourite sport, TV show) of their classmates. They draft their survey questions (see TBLM ICT.10#1: Questioning and TBLM Mod.2.6#1: Steps for Developing a Survey).
- Students decide how the information will be recorded in the spreadsheet and how it will be graphed to represent the gathered data most effectively.
- Students conduct the survey and enter the data in the spreadsheet. They use their spreadsheet to graph and visualize the data, analyze the graphical representations of the data, and write conclusions based on the graphs obtained.

Variations/Extensions
- List other uses for a spreadsheet, such as recording marks, listing books read, making schedules, recording new vocabulary words, and creating a class dictionary. Discuss what makes a spreadsheet program more useful than a word processor for dealing with data. (For example, data can be sorted, edited, graphed, and represented.)
- Each student records his or her daily results from OLE.2: Daily Edit and OLE.3: Daily Math and Problem Solving using a spreadsheet. Students create a monthly graph of their results and interpret the graph for fluctuations.
- Students create journal entries using BLM OLE.5#2: Share the Learning Journal as they make learning discoveries. They use their journals to prepare for sharing sessions and bring home their journals each week.

SUGGESTIONS FOR ASSESSMENT
- Determine whether students are using the best graphing format to represent the data collected.
- Students reflect on their learning related to this ICT as they update BLM OLE.8#2: What Have I Learned? during reflection time (see OLE.8: Reflection Journal). They list newly acquired skills.
- Assess students' ability to use a spreadsheet in this interdisciplinary unit, when they create and analyze surveys.

***CONNECTION TO* INVENTIONS, INNOVATIONS, AND DISCOVERIES**
- Students collect data about inventions and use a spreadsheet to record and analyze the information.
- Assess students' performance in using a spreadsheet when they create and analyze their invention needs survey.