Author	Byron Douglas Butt
Title	Remembering Our Veterans – Data Management Project
Grade Level	Junior High – grade 8
Subject Area	Mathematics
Overview of unit/lessons/activities (assumptions of prior knowledge/learning)	**Overview:** This particular project utilizes data collected from various sources (Veterans Affairs, Royal Canadian Legion, Department of National Defence) based on Canadian military statistics. It allows students to consolidate some of their understanding of data management, while using the theme of Remembering Our Veterans. This could be done at any time of the year but would be especially appropriate if the unit on data management (**GCO F**) is covered during October or November. Some data files are provided, including some extensive data from World War I and other general information about conflicts of the past century. Students will plan and create a **PowerPoint** presentation using some of this information, as well as incorporating other data they have found on their own, to show their knowledge of different types of data displays (especially circle graphs, scatter plots, and box-and-whisker plots) and to show their analysis of the data they have used. They will use **Inspiration** to prepare their plan, giving an overview of the information and displays they will include in their presentation. If data displays are done by hand, students will need to scan their work or take a digital photograph of it in order to include this work in the presentation. **Background:** Students in grade 7 and 8 work on outcomes related to **data management**. They learn the development of surveys, collection of data, display of data using circle graphs, histograms, box-and-whisker plots, and scatter plots, as well as the analysis of such data that is collected. Although in grade 7 it is a good idea to begin with hand drawn data displays, using a spreadsheet application such as **Microsoft Excel** or **AppleWorks** would produce more polished data displays. These programs are useful as enrichment in grade 7 and as a core component of the grade 8 curriculum in data management. There are also specialized software applications, which may be available in some schools (**Fathom** and **TinkerPlots**) which allow data to be displayed in a variety of ways. There are many opportunities for incorporating ICT (Information and Communication Technology) into mathematics activities. Some suggestions are given here. Not all of these activities would be used in this project. Students might use such programs as **Inspiration** or **Writer's Companion** to plan their work and may also use a word processor such as **Microsoft Word**, **AppleWorks** or **Star Office** to design the final product. Students may use the Internet to do webquests, search for survey project ideas, access Statistics Canada (**E-STAT**) or other websites of statistics for meaningful data information, etc. Students may use **PowerPoint** to develop class presentations on how to design a proper data display. **Digital Video** (**IMovie / Pinnacle Studio**) may be used to design "math movies" to demonstrate an understanding of particular concepts such as "range" or "median".

Correlations to ICT and curriculum outcomes	Gr. 8 Mathematics Outcomes	**F3**	construct and interpret circle graphs
		F4	construct and interpret scatter plots and determine a line of best fit by inspection.
		F5	construct and interpret box-and-whisker plots
		F6	extrapolate and interpolate information from graphs.
		F8	develop and conduct statistics projects to solve problems
		F9	evaluate data interpretations that are based on graphs and tables
	ICT Outcomes:	**SEHI 9.3**	understand, model, and assume personal responsibility for the acceptable use of copyrighted and other information resources
		PTS 9.5	develop multimedia presentations, based on sound principles of design, with increasing confidence, efficiency and independence
		RPSD 9.1	select appropriate measuring and recording devices and/or software to collect data, discover patterns of change over time, solve problems and make logical decisions based on their investigations; with teacher assistance
		RPSD 9.2	create and use electronic charts, maps, tables, graphs, spreadsheets, and databases to collect, analyse and display data independently
		RPSD 9.9	accurately and independently cite information sources
Projected timeline for preparation and for carrying out activities	Four to six class periods: (estimated based upon periods of approximately 50 minutes each) Period 1: Have students work in groups to develop their presentations. (2 to 4 students, depending upon the availability of computers). With the whole class, review the software titles the students will be using - Inspiration and PowerPoint. “QuickStart” tutorials for these titles are available at http://lrt.ednet.ns.ca. See the list of resources for the exact links. You should also review of bibliographic formats, copyright requirements and methods of citing work. Period 2: Continue the work of designing the layout of the presentation, using Inspiration software. Periods 3-5: (if all needed) The groups continue to work with the technology and their data, producing their PowerPoint presentations, using the secondary data provided. Graphical displays of data should be produced for the presentation. These can be made using spreadsheet software (e.g., Microsoft Excel, AppleWorks) Final period: (if needed) Groups present their work to the class.		

Equipment Requirements: (computers, software, etc)	Computers with internet access and use of brainstorming/planning software, as well as word processing, presentation, and spreadsheet software, e.g., **Inspiration,** Microsoft **Word**, Microsoft **Excel**, and Microsoft **PowerPoint**. Since students will be working in groups, the number of accessible computers required is variable. Several computers in one or two classroom "pods" would work effectively with some pre-planning or if teachers carry the project over a longer period of time to allow some groups access to the computers while others are working on other aspects of the curriculum. Access to a computer lab may be useful, but is not a necessity. Depending on the school, a mobile lab of laptops may be available for use during this project.
Teaching materials provided (Blacklines, worksheets, templates, teacher materials)	**Student assignment handout:** gr_8_data_student_handout.doc **Data samples:** canada_at_war_data.doc WWII_enlist_pop.doc WWI data.doc casualties_WW1_WW2.doc
Resources available for teacher/student use (websites, references, etc)	For information about using technology: http://lrt.ednet.ns.ca/PD/pdf/powerpt_qs.pdf – PowerPoint "QuickStart" http://lrt.ednet.ns.ca/PD/pdf/insp_v6.pdf – Inspiration 6 "QuickStart" http://lrt.ednet.ns.ca/PD/pdf/insp_v7.pdf – Inspiration 7 "QuickStart" www.atomiclearning.com – learn how to use a variety of software programs (full service with paid subscription) www.office.microsoft.com – learn how to use a variety of software programs by Microsoft http://en.wikipedia.org/wiki/Main_Page – for research purposes http://teach-nology.com/web_tools/rubrics or http://rubistar.4teachers.org/index.php – to design a rubric For sources of data about Canadian military history: Royal Canadian Legion: http://www.legion.ca/asp/docs/about/MilHeritage_e.asp Department of National Defence: http://www.forces.ca/ Directorate of History and Heritage (Dept. of National Defence): http://www.forces.ca/hr/dhh/ Veterans Affairs Canada: http://www.vac-acc.gc.ca/ Veterans Affairs Canada Youth site (choose "Canadian Military History") http://www.vac-acc.gc.ca/youth/ EBSCO: http://search.epnet.com For a wealth of Canadian statistical information: Statistics Canada, E-STAT: http://estat.statcan.ca/ Statistics Canada Online Publication: Statistics: Power From Data! http://www.statcan.ca/english/edu/power/about/about2.htm

<table>
<tr><td>Detailed instructions for each activity or lesson (teacher notes, activity information, learning strategies, teacher role, student roles)</td><td>Period 1: Review Inspiration and PowerPoint. Discuss design options and principles. Review the use of bibliographic formats and methods of citing sources. Have students work in groups to develop their presentations. (2 to 4 students, depending upon the availability of computers). This could be done in class, using a computer and LCD projector for the review and samples, and then have students work on their plans in groups.

Period 2: Groups continue developing their presentation, using Inspiration to produce their final plan. This could be done in class, with computers available for groups as they complete their ideas and discussions. If there is a computer lab available, this could also be carried out in that situation. The sample student handout provided with this unit asks each group to find some additional data from other sources for part of their presentation. This would require the use of computers for searching the Internet to find useful information. The groups are expected to produce four graphs using their data; one each of a circle graph, a scatter plot, a histogram, and a box-and-whisker plot. These requirements may be altered to suit the situation. The analysis of the data used is an important component of the activity, and may require the bulk of the time used in the planning and preparation of the presentation.

Periods 3, 4 (and 5 if needed) The groups continue to work with the secondary data, and develop their statistical displays and their presentations. They may require other software applications, such as MS Excel or the AppleWorks spreadsheet module in order to produce the charts they wish to display. These can be included in the presentations. If their displays are created by hand, students will need to digitize them for the presentation. They can be scanned, or a digital camera can be used to photograph the sheets, and the graphics inserted into the presentation.

Final Period: Groups present their work to the class.
Detailed student instructions can be found in the file: gr_8_data_student_handout.doc</td></tr>
<tr><td>Student products expected</td><td>An Inspiration web, created to help in the development of ideas for the plan of the presentation.
A Powerpoint presentation containing tables, charts, and text, with options for the inclusion of graphics and sounds.

NOTE: Any materials included in the presentation must comply with Canadian copyright laws. See comments below.</td></tr>
<tr><td>Samples (include teacher notes, assessment information, student</td><td>Data files:
Excel - WWI.xls
Fathom - WWI.ftm
TinkerPlots - WWI.tp
Enlistments.xls
Enlistments.ftm
World_wars_deaths.xls
WW1 casualties.ftm</td></tr>
</table>

work if available)	**MLA citations for website information included here:** citations_web.doc **Rubrics:** data_group_self_rubric.doc data_plan_group_rubric.doc data_presentation_rubric.doc data_scoring_rubric.doc **Sample products:** **Inspiration 6** - gr_8_sample_plan_insp6.ins **Inspiration 7** - gr_8_sample_plan_insp7.isf **PowerPoint** - gr_8_data_project_sample.ppt
Logistics (organization, grouping, management issues, access to technology)	This type of assignment works well as a collaborative project. Groups could have 2, 3, or 4 students, depending on the classroom situation and the availability of technology. Groups should have clear instructions on their tasks and the role each member is expected to carry out. In selecting members of groups, teachers should try to combine students so that groups include various members with a variety of skills and knowledge. Ideally, each group should include at least one member with a good grasp of the mathematical concepts; a member with technological skills; a member with creative ideas; and someone with organizational ability. Managing classroom activities where students are working on their own products, and combining work on the computer with tasks done away from the machines can be challenging. In a classroom, with three or four computers, these tasks require careful scheduling; each machine might be turned into a centre for use for a specific purpose. For example, one computer may be designated the “Research computer” and students go to that machine to look up information or collect data. A computer lab is not always appropriate or accessible, and various strategies, such as creating activity centres or scheduling of computer time for each group, should be considered in planning this project. Much of the work – planning the presentation, organizing the data, any hand-done data displays – can be done “off-line” and students can work on these tasks without access to a computer. Students need to be aware of Canadian copyright laws. Here are some suggestions for ensuring that materials used in the presentations comply with copyright: 1. use the clip media (sounds, images, etc) that are provided as part of their software application 2. access “copyright-cleared” materials, e.g., images available through the ImagesProject (http://imagesproject.ednet.ns.ca/) for use in the project 3. create your own images and/or sounds for use in the project 4. ask permission of the copyright holder of a piece of media. This should be done in writing (such as an e-mail) and the permission should be saved and kept with the project. Any restrictions on the permission granted must be followed.

Assessment information (e.g., rubrics for products and/or process)	See sample rubrics. data_group_self_rubric.doc data_plan_group_rubric.doc data_presentation_rubric.doc data_scoring_rubric.doc
Possible extensions	There are many possibilities for extension and connection with other curriculum areas. For World War I: Why did the percentage of officers to all ranks increase dramatically in 1919? What connections could be made between the changes in the numbers of the military AFTER November 1918 and the influenza pandemic? What was happening in Canada during various years of the war? Did these events affect the numbers for those years? For other conflicts: Is there information similar to that provided for World War I? Has there been a change in the percentage of officers to all ranks over the last century? What has changed because of the increase in technological capabilities? For the present day: Is there information about the percentage of military members from each province? Would these percentages reflect the populations of the various provinces and territories?

Planning with Inspiration
Group Project Self Assessment

Name: _____ Teacher: _____

Date: _____ Title of Work: _____

Criteria	4	3	2	1	Points
Plan Development	Our plan was fully developed and complete. Our entire project is organized and ready to create with this plan.	We have a good web of ideas put together in a logical manner. It contains enough information for us to develop our project, but we will need to add details as we go.	We have a general outline for the project. It does not contain enough information for us to complete our project and we will have to make more plans later.	We were unable to complete assignment due to lack of understanding or poor use of time.	____
Time Management	It's done! We worked well together and created a plan we are very proud of. We made good use of our time and resources.	We did a decent job. We generally used our time wisely but struggled with what we were being asked. Perhaps we ran out of time.	We ran out of time because we spent too much time talking rather than working. We need help with the Inspiration software.	We didn't do a thing. We didn't understand so we didn't get anything done.	____
Communication and Sharing	I gave ideas in most facets of the project. I listened to the others and we made decisions based on everyone's input. We kept the teacher informed of our progress and asked questions when we needed help.	I discussed ideas with my partners and the teacher at times. I had other ideas but was didn't participate fully. Our final decisions didn't always include everyone's ideas.	I shared some ideas with my partners but I didn't spend a lot of time listening to the others' ideas. The plan was mostly put together by one or two people in the group. We didn't check with our teacher about our work very often.	We communicated alright! I spent more time talking about any topic other than this project. We didn't share our ideas and the plan doesn't include ideas from us all. We didn't talk to our teacher about our project.	____
				Total---->	___
Comments:					

Group Project: Individual Self Assessment

Name: _____ Teacher: _____

Date: _____ Title of Work: _____

Criteria	4	3	2	1	Points
Helping I offered assistance to other group members.	**All** of the Time	**Most** of the Time	**Some** of the Time	**None** of the Time	____
Listening I listened to my group members and included their ideas in our project.	**All** of the Time	**Most** of the Time	**Some** of the Time	**None** of the Time	____
Participating: I contributed my ideas and work to the project.	**All** of the Time	**Most** of the Time	**Some** of the Time	**None** of the Time	____
Persuading: I exchanged ideas, interacted with all members, and helped focus our group ideas.	**All** of the Time	**Most** of the Time	**Some** of the Time	**None** of the Time	____
Questioning: I asked questions of myself and the rest of the group to help clarify the ideas of all members of the team.	**All** of the Time	**Most** of the Time	**Some** of the Time	**None** of the Time	____
				Total---->	___
Comments:					

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Presentation Rubric

Name: _____ Reviewer: _____

Criteria	4	3	2	1	Points
Organization	Information present in a logical, interesting sequence easily followed by the audience	Information presented in logical sequence which audience could follow.	Information was presented out of sequence, presentation 'jumped around. Audience had difficulty understanding the information.	Information was not presented in an understandable sequence. Audience could not understand the information.	____
Content Knowledge	Presentation demonstrated full knowledge (more than required) of data management, providing extensive explanations and elaboration.	Content was correctly presented, but presentation did not include extensive elaborations on the information.	Presentation showed some comfort with the data included. Only rudimentary questions could be answered.	Presentation showed a weak grasp of information. Audience questions could not be answered.	____
Visuals	Visuals were well-chosen and appropriate and reinforced screen text effectively.	Visuals were used in the presentation which were related to the text.	A few visuals that rarely supported the text were used in the presentation.	No visuals were used in the presentation to support the screen text.	____
Mechanics	Presentation had no misspellings or grammatical errors.	Presentation had no more than two misspellings and/or grammatical errors.	Presentation had three misspellings and/or grammatical errors.	Presentation had four or more spelling errors and/or grammatical errors.	____
Oral Delivery	Presentation was delivered in a clear voice and terms were pronounced and used correctly. Delivery was well-paced, with appropriate pauses for understanding and questions.	Presentation was given in a clear voice. Most words were pronounced and used correctly. Pacing was acceptable, with few appropriate pauses.	Audience members had difficulty hearing presentation. Terms were incorrectly pronounced or used in an incorrect context. Pacing was too fast or too slow.	Presentation was poorly delivered: voice was too quiet, words were mumbled, terms pronounced or used incorrectly. Pacing was much too fast or too slow.	____
				Total---->	____
Comments:					

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Remembering Our Veterans Math Project
Scoring Rubric

Name: _____ Teacher: _____

Criteria	4	3	2	1	Points
Use of Inspiration in planning the presentation.	Student has demonstrated a superior vision of the final product through the use of Inspiration.	Student has demonstrated a clear vision of the final product through the use of Inspiration.	Student has demonstrated a somewhat clear vision of the final product through the use of Inspiration.	Student has not demonstrated a clear vision of the final product through the use of Inspiration. No plan is submitted.	____
Understanding of how to generate a PowerPoint Presentation	PowerPoint presentation is very well organized and completed in the time provided. Student has demonstrated an advanced understanding of this software.	PowerPoint presentation is well organized and completed in the time provided. Student has demonstrated comfort with this software	PowerPoint presentation is not well organized and may be lacking details required. Student has demonstrated some knowledge of this software	PowerPoint presentation is incomplete. Student has demonstrated little knowledge of this software	____
Understanding of data displays, in particular histograms.	Student has demonstrated a very good understanding of data displays. Excellent use of spreadsheet software.	Student has demonstrated a good understanding of data displays. Accomplished in the use of spreadsheet software.	Student has demonstrated a basic understanding of data displays. May lack proper labeling. Some use of spreadsheet software.	Student has not demonstrated an understanding of how to develop data displays. Little use of spreadsheet software is evident.	____
Data analysis. Demonstrate an ability to "read" the data display and to formulate conclusions from secondary data.	Student has demonstrated an excellent understanding of data analysis. Multiple conclusions are drawn from each set of data. Further research has been demonstrated.	Student has demonstrated a good understanding of data analysis. Good conclusions have been drawn and further research has been demonstrated.	Student has demonstrated a rudimentary understanding of data analysis. Basic conclusions have been drawn from the data.	Student has demonstrated no understanding of data analysis. Work not completed in required time.	____
Information Gathering	Information is gathered from multiple electronic and non-electronic sources and cited in a bibliography on the PowerPoint.	Information is gathered from multiple electronic and non-electronic sources, which may be cited in incomplete form.	Information is gathered from limited electronic and non-electronic sources. Citations are limited or not given.	Information is gathered from non-electronic or electronic sources only. Citations are limited or not given.	____
				Total---->	____

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Canada at War

Boer War, 1899-1902

	Served	Died	Wounded	Prisoners of War
Canada Total	**~7 000**	**267**	**N/A**	**N/A**

World War I, 1914-1918

	Served	Died	Wounded	Prisoners of War
Air	~25 000	1600	N/A	N/A
Sea	N/A	N/A	N/A	N/A
Women	4518	N/A	N/A	N/A
Canada Total	**628736**	**66573**	**138166**	**2818**
Merchant Navy	1400	175	N/A	N/A
Newfoundland	5,482	1,251	2,314	180

World War II, 1939-1945

	Served	Died	Wounded	Prisoners of War
Air	249,624	17,100	N/A	N/A
Sea	113 000	1190	N/A	N/A
Women	49 963	73	19	N/A
Canada Total	**1 081 865**	**44 927**	**53 145**	**8271**
Merchant Navy	14 000	1146	N/A	N/A
Newfoundland	19 460	704	N/A	N/A

Note: Newfoundland became a province of Canada in 1949.

Korea, 1950-1953

	Served	Died	Wounded	Prisoners of War
Air	N/A	N/A	N/A	N/A
Sea	3500	3	10	N/A
Women	N/A	N/A	N/A	N/A
Canada Total	**26 791**	**516**	**1558**	**33**

Gulf War, 1991

	Served	Died	Wounded	Prisoners of War
Women	237	0	0	N/A
Canada Total	**4074**	**0**	**0**	**N/A**

Peacekeeping, since 1948

	Served	Died	Wounded	Prisoners of War
Canada Total	**125 000+**	**115+**	**N/A**	**N/A**

A total of ninety-three (93) Canadians or members of the Canadian military have been awarded the Victoria Cross since was first issued in 1856.

Source: “About Us - Our Military Heritage.” The Royal Canadian Legion. 29 Oct. 2004. Royal Canadian Legion. 18 Jan. 2006 http://www.legion.ca/asp/docs/about/MilHeritage_e.asp.

One other VC was awarded to a member of The Royal Newfoundland Regiment for service in World War I; Newfoundland was a separate Dominion of the British Empire at the time.

Source: "Thomas Ricketts." Wikipedia. 16 Jan. 2006. Wikimedia Foundation, Inc. 24 Jan. 2006 http://en.wikipedia.org/wiki/Thomas_Ricketts).

Canadian Military Strength at the end of each month
30 September 1914 to 30 November 1919

Months	1914			1915			1916		
	Officers	Other Ranks	All Ranks	Officers	Other Ranks	All Ranks	Officers	Other Ranks	All Ranks
January				2,815	63,151	**65,966**	10,226	208,034	**218,260**
February				3,299	70,191	**73,490**	11,364	231,704	**243,068**
March				3,631	77,564	**81,195**	12,343	261,851	**274,194**
April				4,110	81,352	**85,462**	13,115	277,009	**290,124**
May				4,445	86,454	**90,899**	13,916	285,936	**299,852**
June				5,504	95,321	***100,825**	14,424	288,087	**302,511**
July				5,504	108,659	**114,163**	14,897	290,026	**304,923**
August				6,059	124,218	**130,277**	15,450	290,793	**306,243**
September	1,674	30,289	**31,963**	6,572	138,330	**144,902**	15,556	286,055	**301,611**
October	1,816	35,385	**37,201**	7,055	147,828	**154,883**	15,718	282,894	**298,612**
November	2,251	47,905	**50,156**	7,799	162,674	**170,473**	16,162	282,787	**298,949**
December	2,481	55,514	***57,995**	8,961	182,693	**191,654**	16,421	283,516	**299,937**

Months	1917			1918			1919		
	Officers	Other Ranks	All Ranks	Officers	Other Ranks	All Ranks	Officers	Other Ranks	All Ranks
January	16,790	286,359	**303,149**	18,539	301,650	**320,189**	18,401	291,365	**309,766**
February	17,181	286,977	**304,158**	18,485	304,721	**323,206**	17,404	260,994	**278,398**
March	17,458	287,127	**304,585**	18,485	307,773	**326,258**	15,684	212,608	**228,292**
April	17,802	283,494	**301,296**	18,954	314,331	**333,285**	13,680	171,152	**184,832**
May	17,815	285,369	**303,184**	19,228	344,757	**363,985**	11,334	120,089	**131,423**
June	17,872	287,160	**305,032**	19,851	359,833	**379,684**	9,301	84,106	**93,407**
July	18,231	287,402	**305,633**	19,861	368,177	**388,038**	6,759	46,279	**53,038**
August	18,179	285,035	**303,214**	19,895	362,280	**382,175**	4,979	27,213	**32,192**
September	18,387	285,220	**303,607**	19,677	354,343	**374,011**	3,281	17,133	**20,414**
October	18,273	285,454	**303,727**	19,629	351,592	**371,221**	2,436	12,441	**14,877**
November	18,213	288,577	**306,790**	20,048	342,726	**362,774**	1,996	9,569	**11,565**
December	18,182	288,947	**307,129**	19,403	323,245	**342,648**			

Source: "Table 2: Strength at End of Each Month from 30 September 1914 to 30 November 1919." Chart. Army Historical Section. 1964. Canadian Expeditionary Force, 1914–1919. By Col. G.W.L. Nicholson. 2nd ed. Ottawa, ON: Queen's Printer, 1964. 521-2. Directorate of History and Heritage. Department of National Defence. 20 Jan. 2006 <http://www.forces.ca/hr/dhh/downloads/Official_Histories/CEF_e.PDF>.

* some corrections have been made to the totals)

Possible activities:

- Use a spreadsheet to calculate the percentage of officers in each month of a given year, and graph the results.
- Make a histogram of the total military strength for each month of a given year, or the same month for all six years.
- Make a box and whisker plot of the total military strength for each month of a given year.
- Create a presentation or web page to connect the data to historical events (1918 or 1919 might be very interesting, since there was also the effect of the influenza pandemic as well as demobilization.)

World War I: Casualties by country

Entente Powers	Military Deaths	Civilian Deaths	Total Deaths	Wounded
Australia	59330		59330	159171
Belgium	13716	30000	43716	44686
Canada	66655		66655	172950
France	1375800	40000	1415800	4266000
Greece	5000	132000	137000	21000
India	43000		43000	65000
Italy	650000		650000	947000
Japan	300		300	907
Montenegro	3000		3000	10000
New Zealand	18166		18166	58526
Newfoundland	1251		1251	2314
Portugal	7222		7222	13751
Romania	335706	275000	610706	120000
Russia	1700000	2000000	3700000	4950000
Serbia	450000	650000	1100000	1250000
South Africa	7000		7000	12000
United Kingdom	703000	30633	733633	1663000
United States	126000	200	126200	234300
Total (Entente Powers)	5565146	3157833	8722979	13990605
Central Powers	**Military Deaths**	**Civilian Deaths**	**Total Deaths**	**Wounded**
Austria-Hungary	1200000	300000	1500000	3620000
Bulgaria	87500	275000	362500	152390
Germany	1773700	760000	2533700	4216058
Ottoman Empire	325000	2150000	2475000	400000
Total (Central Powers)	3386200	3485000	6871200	8388448
Neutral nations				
Norway		1900	1900	
Total (all in table)	8951346	6644733	15596079	22379053

Source: "World War I Casualties." Wikipedia. 6 Feb. 2006. Wikimedia Foundation Inc. 7 Feb. 2006 <http://en.wikipedia.org/wiki/World_War_I_casualties>.

Casualty numbers are debated; these are given according to sources identified in the originating website.

World War II: Casualties by country

Allied and Neutral Countries	Military deaths	Civilian deaths	Jewish Holocaust deaths	Total deaths
Albania	28000			28000
Australia	39400	700		40100
Belgium	12100	52000	24000	88100
Brazil	500			500
Burma		60000		60000
Canada	43600			43600
China	4000000	6000000		10000000
Czechoslovakia	25000	63000	277000	365000
Estonia		40000	1000	41000
Ethiopia	5000	200000		205000
France	212000	267000	83000	562000
French Indo-China		1000000		1000000
Greece	20000	209000	71000	300000
India	36100	1500000		1536100
Indonesia		4000000		4000000
Iraq	1000			1000
Korea		60000		60000
Latvia		147000	80000	227000
Lithuania		212000	141000	353000
Luxembourg		1000	1000	2000
Malaya		25000		25000
Malta		2000		2000
Mongolia	300			300
Netherlands	7900	92000	106000	205900
New Zealand	11900			11900
Philippines	30000	90000		120000
Pacific Islands		57000		57000
Portuguese Timor		55000		55000
Singapore		50000		50000
South Africa	8700			8700
Soviet Union	10600000	11500000	1000000	23100000
Thailand	5800			5800
United Kingdom	308400	61700		370100
United States	407300	11200		418500
Yugoslavia	300000	733000	67000	1100000

Totals	16103000	26488600	1851000	44442600

Axis Powers / Other Countries fighting against the Allies	Military deaths	Civilian deaths	Jewish Holocaust deaths	Total deaths
Germany	5500000	1840000	160000	7500000
Austria	45000	65000		110000
Italy	300000	142000	8000	450000
Japan	1900000	700000		2600000
Hungary	300000	80000	200000	580000
Poland	400000	2200000	3000000	5600000
Romania	300000	31000	469000	800000
Bulgaria	22000			22000
Yugoslavia	300000	733000	67000	1100000
Denmark	1100	3000		4100
Finland	91000	2000		93000
Spain	4000			4000
Totals	9163100	5796000	3904000	18863100

Source: "World War II Casualties." Wikipedia. 6 Feb. 2006. Wikimedia Foundation Inc. 7 Feb. 2006 <http://en.wikipedia.org/wiki/World_War_II_casualties>.

Casualty numbers are debated; these are given according to sources identified in the originating website.

World War II Intake: Number of male enlistments by province.

Province	Enlistments	Province	Enlistments
Prince Edward Island	9309	**Nova Scotia**	59355
New Brunswick	45137	**Quebec**	176441
Ontario	398808	**Manitoba**	76444
Saskatchewan/N.W.T.	80605	**Alberta**	77703
British Columbia/Yukon	90976	**From Outside Canada**	17124

Total Males: 1031902

Total Females: 49963

Total Enlistments for World War II: 1081865

Source: "About Us - Our Military Heritage." The Royal Canadian Legion. 29 Oct. 2004. Royal Canadian Legion. 18 Jan. 2006 http://www.legion.ca/asp/docs/about/MilHeritage_e.asp.

World War II Provincial Populations (1941 Census data)

Province	Population (1941)	Province	Population (1941)
Prince Edward Island	95047	**Nova Scotia**	577962
New Brunswick	457401	**Quebec**	3331882
Ontario	3787655	**Manitoba**	729744
Saskatchewan/N.W.T.	908020	**Alberta**	796169
British Columbia/Yukon	822775		

Source: "A2-14. Population of Canada, by province, census dates, 1851 to 1976." Statistics Canada: Historical Statistics of Canada. Ed. K.G. Basavarajappa and Bali Ram. 29 July 1999. Statistics Canada. 16 Feb. 2006 <http://www.statcan.ca/ english/freepub/11-516-XIE/sectiona/A2_14.csv>.

Works Cited from the Internet

"About Us - Our Military Heritage." The Royal Canadian Legion. 29 Oct. 2004. Royal Canadian Legion. 18 Jan. 2006 <http://www.legion.ca/asp/docs/about/MilHeritage_e.asp>.

Bernier, Serge. Canadian Military Heritage, Vol. III: 1872--2000. Montreal, PQ, Canada: Art Global, 2000. Directorate of History and Heritage. Department of National Defense. 19 Jan. 2006 <http://www.forces.ca/hr/dhh/downloads/Official_Histories/CMH_Vol3_e.PDF>.

Nicholson, Col. G.W.L., CD. Canadian Expeditionary Force, 1914--1919. Ottawa, ON, Canada: Queen's Printer, 1964. Directorate of History and Heritage. Department of National Defense. 19 Jan. 2006 <http://www.forces.ca/hr/dhh/downloads/Official_Histories/CEF_e.PDF>.

"Statistics: Power from Data!" Statistics Canada. 2006. Government of Canada. 25 Jan. 2006 <http://www.statcan.ca/english/edu/power/toc/contents.htm>.

"History." Veterans Affairs Canada. 29 July 2004. Government of Canada. 18 Jan. 2006 <http://www.vac-acc.gc.ca/general/sub.cfm?source=history>.

"World War I Casualties." Wikipedia. 6 Feb. 2006. Wikimedia Foundation, Inc. 7 Feb. 2006 <http://en.wikipedia.org/wiki/World_War_I_casualties>.

"World War II Casualties." Wikipedia. 6 Feb. 2006. Wikimedia Foundation, Inc. 7 Feb. 2006 <http://en.wikipedia.org/wiki/World_War_II_casualties>.

"A2-14. Population of Canada, by province, census dates, 1851 to 1976." Statistics Canada: Historical Statistics of Canada. Ed. K.G. Basavarajappa and Bali Ram. 29 July 1999. Statistics Canada. 16 Feb. 2006 <http://www.statcan.ca/english/freepub/11-516-XIE/sectiona/A2_14.csv>.

Grade Seven Mathematics
Data Management Project
Remembering Our Veterans

Name: _____ Class: _____

By the end of this project, students will be expected to…:

Mathematics:	
F3	construct and interpret circle graphs
F4	construct and interpret scatter plots and determine a line of best fit by inspection.
F5	construct and interpret box-and-whisker plots
F6	extrapolate and interpolate information from graphs.
F8	develop and conduct statistics projects to solve problems
F9	evaluate data interpretations that are based on graphs and tables
ICT Integration:	
SEHI 9.3	understand, model, and assume personal responsibility for the acceptable use of copyrighted and other information resources
PTS 9.5	develop multimedia presentations, based on sound principles of design, with increasing confidence, efficiency and independence
RPSD 9.1	select appropriate measuring and recording devices and/or software to collect data, discover patterns of change over time, solve problems and make logical decisions based on their investigations; with teacher assistance
RPSD 9.2	create and use electronic charts, maps, tables, graphs, spreadsheets, and databases to collect, analyse and display data independently
RPSD 9.9	accurately and independently cite information sources

In the unit on “Data Management” we have worked towards achieving an understanding of the uses of data and different ways to display information. Some of the curriculum outcomes for this unit are listed above. In this project you will consolidate your understanding of these outcomes, as well as making use of technology and software applications to present your work. The project will be based on information that helps describe some of the impact of various conflicts in our history. The data provided will also help us to remember and reflect on the sacrifices that Canadians have made to help maintain peace and order in the world. You will work in groups to fulfill the tasks listed below.

Summary of the Project Requirements:

1. Develop a research project plan using **Inspiration**. A copy of this plan must be submitted prior to completing the project. You must describe the data and the displays you will be using for your presentation.
   Other questions you might include in your plan:
   - In what conflicts have Canadians participated since 1900?
   - How many Canadians have participated in each conflict?
   - What other detailed information is available for any of these conflicts?
   - What was the impact of each conflict to Canadians?
   - Where am I getting my information?
   - What websites am I going to use?

2. Develop a **PowerPoint** presentation with a minimum of ten (10) slides based on your own research (EBSCO, books, internet, etc.) as well as data supplied by teacher. Please include:
   - a circle graph showing some aspect of the participation in war of Canadians during the 20th century
   - a scatter graph, using data gathered from your own research. For example, this could be a graph showing the cost in money and casualties for the conflicts.
   - a histogram showing a range of distribution of data; the information about military strength in World War I may be useful for this activity
   - a box and whisker plot showing some information you have gathered through the data provided, or from other sources
   - an analysis of the data displayed in each of the graphs given
   - a bibliography slide (or slides) listing all resources cited in the presentation. You may wish to create these through NoodleBib Express (http://www.noodletools.com)

3. Present your project to the class. Be prepared to answer questions on the data displays and data analysis.

Assessment

1. You will use a self-assessment rubric to evaluate your group's planning process and final plan in **Inspiration** used in the development of this project. (after day 1)
2. You will evaluate your contributions to the process you went through to develop this project and your group's achievements, using a self-assessment rubric.
3. Your peers and teacher will use a rubric to evaluate your group's class presentation.
4. Your teacher will use a scoring rubric to evaluate the entire project.

Helpful websites

For information about using technology:

http://lrt.ednet.ns.ca - in the left menu, chooseTeacher Resources and then Software Tutorials to access tutorials for various software titles.
http://www.office.microsoft.com – learn how to use a variety of software programs by Microsoft
http://www.inspiration.com/ - find a basic tutorial for using Inspiration here
http://www.atomiclearning.com - learn basics for software such as Inspiration and PowerPoint (only some sections are free)

For sources of data about Canadian military history:

Royal Canadian Legion: http://www.legion.ca/asp/docs/about/MilHeritage_e.asp
Department of National Defence: http://www.forces.ca/
Directorate of History and Heritage (Dept. of National Defence): http://www.forces.ca/hr/dhh/
Veterans Affairs Canada: http://www.vac-acc.gc.ca/
EBSCO: http://search.epnet.com
Wikipedia: http://en.wikipedia.org/wiki/Main_Page – for research purposes

For a wealth of Canadian statistical information:

Statistics Canada, E-STAT: http://estat.statcan.ca/
Statistics Canada Online Publication with excellent information about using statistics and graphs:

Statistics: Power From Data! http://www.statcan.ca/english/edu/power/about/about2.htm

Canada at War

Boer War, 1899-1902

	Served	Died	Wounded	Prisoners of War
Canada Total	~7 000	267	N/A	N/A

World War I, 1914-1918

	Served	Died	Wounded	Prisoners of War
Air	~25 000	1600	N/A	N/A
Sea	N/A	N/A	N/A	N/A
Women	4518	N/A	N/A	N/A
Canada Total	628736	66573	138166	2818
Merchant Navy	1400	175	N/A	N/A
Newfoundland	5,482	1,251	2,314	180

World War II, 1939-1945

	Served	Died	Wounded	Prisoners of War
Air	249,624	17,100	N/A	N/A
Sea	113 000	1190	N/A	N/A
Women	49 963	73	19	N/A
Canada Total	**1 081 865**	**44 927**	**53 145**	**8271**
Merchant Navy	14 000	1146	N/A	N/A
Newfoundland	19 460	704	N/A	N/A

Note: Newfoundland became a province of Canada in 1949.

Korea, 1950-1953

	Served	Died	Wounded	Prisoners of War
Air	N/A	N/A	N/A	N/A
Sea	3500	3	10	N/A
Women	N/A	N/A	N/A	N/A
Canada Total	**26 791**	**516**	**1558**	**33**

Gulf War, 1991

	Served	Died	Wounded	Prisoners of War
Women	237	0	0	N/A
Canada Total	**4074**	**0**	**0**	**N/A**

Peacekeeping, since 1948

	Served	Died	Wounded	Prisoners of War
Canada Total	**125 000+**	**115+**	**N/A**	**N/A**

A total of ninety-three (93) Canadians or members of the Canadian military have been awarded the Victoria Cross since was first issued in 1856.

Source: “About Us - Our Military Heritage.” The Royal Canadian Legion. 29 Oct. 2004. Royal Canadian Legion. 18 Jan. 2006 http://www.legion.ca/asp/docs/about/MilHeritage_e.asp.

One other VC was awarded to a member of The Royal Newfoundland Regiment for service in World War I; Newfoundland was a separate Dominion of the British Empire at the time.

Source: "Thomas Ricketts." Wikipedia. 16 Jan. 2006. Wikimedia Foundation, Inc. 24 Jan. 2006 http://en.wikipedia.org/wiki/Thomas_Ricketts).

World War II Intake: Number of male enlistments by province.

Province	Enlistments	Province	Enlistments
Prince Edward Island	9309	**Nova Scotia**	59355
New Brunswick	45137	**Quebec**	176441
Ontario	398808	**Manitoba**	76444
Saskatchewan/N.W.T.	80605	**Alberta**	77703
British Columbia/Yukon	90976	**From Outside Canada**	17124

Total Males: 1031902

Total Females: 49963

Total Enlistments for World War II: 1081865

Source: "About Us - Our Military Heritage." The Royal Canadian Legion. 29 Oct. 2004. Royal Canadian Legion. 18 Jan. 2006 http://www.legion.ca/asp/docs/about/MilHeritage_e.asp.

Province	Population (1941)	Province	Population (1941)
Prince Edward Island	95047	**Nova Scotia**	577962
New Brunswick	457401	**Quebec**	3331882
Ontario	3787655	**Manitoba**	729744
Saskatchewan/N.W.T.	908020	**Alberta**	796169
British Columbia/Yukon	822775		

Source: "A2-14. Population of Canada, by province, census dates, 1851 to 1976." Statistics Canada: Historical Statistics of Canada. Ed. K.G. Basavarajappa and Bali Ram. 29 July 1999. Statistics Canada. 16 Feb. 2006 <http://www.statcan.ca/ english/freepub/11-516-XIE/sectiona/A2_14.csv>.

Canadian Military Strength at the end of each month
30 September 1914 to 30 November 1919

Months	1914			1915			1916		
	Officers	Other Ranks	All Ranks	Officers	Other Ranks	All Ranks	Officers	Other Ranks	All Ranks
January				2,815	63,151	**65,966**	10,226	208,034	**218,260**
February				3,299	70,191	**73,490**	11,364	231,704	**243,068**
March				3,631	77,564	**81,195**	12,343	261,851	**274,194**
April				4,110	81,352	**85,462**	13,115	277,009	**290,124**
May				4,445	86,454	**90,899**	13,916	285,936	**299,852**
June				5,504	95,321	***100,825**	14,424	288,087	**302,511**
July				5,504	108,659	**114,163**	14,897	290,026	**304,923**
August				6,059	124,218	**130,277**	15,450	290,793	**306,243**
September	1,674	30,289	**31,963**	6,572	138,330	**144,902**	15,556	286,055	**301,611**
October	1,816	35,385	**37,201**	7,055	147,828	**154,883**	15,718	282,894	**298,612**
November	2,251	47,905	**50,156**	7,799	162,674	**170,473**	16,162	282,787	**298,949**
December	2,481	55,514	***57,995**	8,961	182,693	**191,654**	16,421	283,516	**299,937**

Months	1917			1918			1919		
	Officers	Other Ranks	All Ranks	Officers	Other Ranks	All Ranks	Officers	Other Ranks	All Ranks
January	16,790	286,359	**303,149**	18,539	301,650	**320,189**	18,401	291,365	**309,766**
February	17,181	286,977	**304,158**	18,485	304,721	**323,206**	17,404	260,994	**278,398**
March	17,458	287,127	**304,585**	18,485	307,773	**326,258**	15,684	212,608	**228,292**
April	17,802	283,494	**301,296**	18,954	314,331	**333,285**	13,680	171,152	**184,832**
May	17,815	285,369	**303,184**	19,228	344,757	**363,985**	11,334	120,089	**131,423**
June	17,872	287,160	**305,032**	19,851	359,833	**379,684**	9,301	84,106	**93,407**
July	18,231	287,402	**305,633**	19,861	368,177	**388,038**	6,759	46,279	**53,038**
August	18,179	285,035	**303,214**	19,895	362,280	**382,175**	4,979	27,213	**32,192**
September	18,387	285,220	**303,607**	19,677	354,343	**374,011**	3,281	17,133	**20,414**
October	18,273	285,454	**303,727**	19,629	351,592	**371,221**	2,436	12,441	**14,877**
November	18,213	288,577	**306,790**	20,048	342,726	**362,774**	1,996	9,569	**11,565**
December	18,182	288,947	**307,129**	19,403	323,245	**342,648**			

Source: "Table 2: Strength at End of Each Month from 30 September 1914 to 30 November 1919." Chart. Army Historical Section. 1964. Canadian Expeditionary Force, 1914–1919. By Col. G.W.L. Nicholson. 2nd ed. Ottawa, ON: Queen's Printer, 1964. 521-2. Directorate of History and Heritage. Department of National Defence. 20 Jan. 2006 <http://www.forces.ca/hr/dhh/downloads/Official_Histories/CEF_e.PDF>.

* Indicates totals which were not correct in the original text - corrections have been made above.

Planning with Inspiration
Group Project Self Assessment

Name: _____ Teacher: _____

Date: _____ Title of Work: _____

Criteria	4	3	2	1	Points
Plan Development	Our plan was fully developed and complete. Our entire project is organized and ready to create with this plan.	We have a good web of ideas put together in a logical manner. It contains enough information for us to develop our project, but we will need to add details as we go.	We have a general outline for the project. It does not contain enough information for us to complete our project and we will have to make more plans later.	We were unable to complete assignment due to lack of understanding or poor use of time.	____
Time Management	It's done! We worked well together and created a plan we are very proud of. We made good use of our time and resources.	We did a decent job. We generally used our time wisely but struggled with what we were being asked. Perhaps we ran out of time.	We ran out of time because we spent too much time talking rather than working. We need help with the Inspiration software.	We didn't do a thing. We didn't understand so we didn't get anything done.	____
Communication and Sharing	I gave ideas in most facets of the project. I listened to the others and we made decisions based on everyone's input. We kept the teacher informed of our progress and asked questions when we needed help.	I discussed ideas with my partners and the teacher at times. I had other ideas but was didn't participate fully. Our final decisions didn't always include everyone's ideas.	I shared some ideas with my partners but I didn't spend a lot of time listening to the others' ideas. The plan was mostly put together by one or two people in the group. We didn't check with our teacher about our work very often.	We communicated alright! I spent more time talking about any topic other than this project. We didn't share our ideas and the plan doesn't include ideas from us all. We didn't talk to our teacher about our project.	____
				Total---->	___
Comments:					

Group Project: Individual Self Assessment

Name: _____ Teacher: _____

Date: _____ Title of Work: _____

Criteria	4	3	2	1	Points
Helping I offered assistance to other group members.	**All** of the Time	**Most** of the Time	**Some** of the Time	**None** of the Time	____
Listening I listened to my group members and included their ideas in our project.	**All** of the Time	**Most** of the Time	**Some** of the Time	**None** of the Time	____
Participating: I contributed my ideas and work to the project.	**All** of the Time	**Most** of the Time	**Some** of the Time	**None** of the Time	____
Persuading: I exchanged ideas, interacted with all members, and helped focus our group ideas.	**All** of the Time	**Most** of the Time	**Some** of the Time	**None** of the Time	____
Questioning: I asked questions of myself and the rest of the group to help clarify the ideas of all members of the team.	**All** of the Time	**Most** of the Time	**Some** of the Time	**None** of the Time	____
				Total---->	___
Comments:					

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Presentation Rubric

Name: _____ Reviewer: _____

Criteria	4	3	2	1	Points
Organization	Information present in a logical, interesting sequence easily followed by the audience	Information presented in logical sequence which audience could follow.	Information was presented out of sequence, presentation 'jumped around. Audience had difficulty understanding the information.	Information was not presented in an understandable sequence. Audience could not understand the information.	____
Content Knowledge	Presentation demonstrated full knowledge (more than required) of data management, providing extensive explanations and elaboration.	Content was correctly presented, but presentation did not include extensive elaborations on the information.	Presentation showed some comfort with the data included. Only rudimentary questions could be answered.	Presentation showed a weak grasp of information. Audience questions could not be answered.	____
Visuals	Visuals were well-chosen and appropriate and reinforced screen text effectively.	Visuals were used in the presentation which were related to the text.	A few visuals that rarely supported the text were used in the presentation.	No visuals were used in the presentation to support the screen text.	____
Mechanics	Presentation had no misspellings or grammatical errors.	Presentation had no more than two misspellings and/or grammatical errors.	Presentation had three misspellings and/or grammatical errors.	Presentation had four or more spelling errors and/or grammatical errors.	____
Oral Delivery	Presentation was delivered in a clear voice and terms were pronounced and used correctly. Delivery was well-paced, with appropriate pauses for understanding and questions.	Presentation was given in a clear voice. Most words were pronounced and used correctly. Pacing was acceptable, with few appropriate pauses.	Audience members had difficulty hearing presentation. Terms were incorrectly pronounced or used in an incorrect context. Pacing was too fast or too slow.	Presentation was poorly delivered: voice was too quiet, words were mumbled, terms pronounced or used incorrectly. Pacing was much too fast or too slow.	____
				Total---->	____
Comments:					

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Remembering Our Veterans Math Project
Scoring Rubric

Name: _____ Teacher: _____

Criteria	4	3	2	1	Points
Inspiration Plan.	Inspiration plan demonstrates a superior vision of the final product.	Inspiration plan demonstrates a clear vision of the final product.	Inspiration plan demonstrates a somewhat clear vision of the final product.	Inspiration plan demonstrates no vision of the final product. **OR** No plan submitted.	____
PowerPoint Presentation	PowerPoint presentation is very well organized and completed in the time provided. Project demonstrates an advanced understanding of this software.	PowerPoint presentation is well organized and completed in the time provided. Project demonstrates comfort with this software	PowerPoint presentation is not well organized and may be lacking details required. Project demonstrates some knowledge of this software	PowerPoint presentation is incomplete. Project demonstrates little knowledge of this software	____
Data Displays	Student has demonstrated a very good understanding of data displays. Excellent use of spreadsheet software.	Student has demonstrated a good understanding of data displays. Accomplished in the use of spreadsheet software.	Student has demonstrated a basic understanding of data displays. May lack proper labeling. Some use of spreadsheet software.	Student has not demonstrated an understanding of how to develop data displays. Little use of spreadsheet software is evident.	____
Data Analysis.	Student has demonstrated an excellent understanding of data analysis. Multiple conclusions are drawn from each set of data. Further research has been demonstrated.	Student has demonstrated a good understanding of data analysis. Good conclusions have been drawn and further research has been demonstrated.	Student has demonstrated a rudimentary understanding of data analysis. Basic conclusions have been drawn from the data.	Student has demonstrated no understanding of data analysis. Work not completed in required time.	____
Research	Information is gathered from multiple electronic and non-electronic sources and cited in a bibliography on the PowerPoint.	Information is gathered from multiple electronic and non-electronic sources, which may be cited in incomplete form.	Information is gathered from limited electronic and non-electronic sources. Citations are limited or not given.	Information is gathered from non-electronic or electronic sources only. Citations are limited or not given.	____
				Total---->	___

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Remembering Our Veterans Gr. 8 Sample Plan

Part 1 Research/Statistics

- Veterans Affairs Canada
- Royal Canadian Legion
  - About Us - Military Heritage
- Department of National Defence
  - Directorate of History and Heritage
- Wikipedia
- Statistics Canada

Part II Data Display / Analysis

- Scatter Graph
  - Pop. vs Enlistments WWII
- Circle Graph
  - Enlistments by Province WWII
- Box-and-Whisker Graph
  - % Officers - WWI
- Histogram
  - Numbers of Military, WWI

All data displays will:

- have a title
- be fully labelled
- be computer generated
- include written analysis

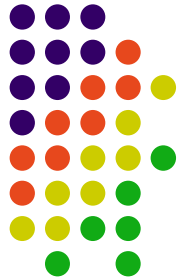
Part III Bibliography

- Listed Alphabetically
- Websites Used
- Citations made using NoodleBib Express

Grade Eight Data Management Project

Remembering Our Veterans

Canadian Military Data



The data used in this assignment is **second-hand data**. It is called second-hand data because we are using information that was collected by someone else.

Information about the Canadian military was collected and published by the Royal Canadian Legion, Veterans Affairs Canada, and the Department of National Defence.

Royal Canadian Legion Data

Enlistments by Province, World War II

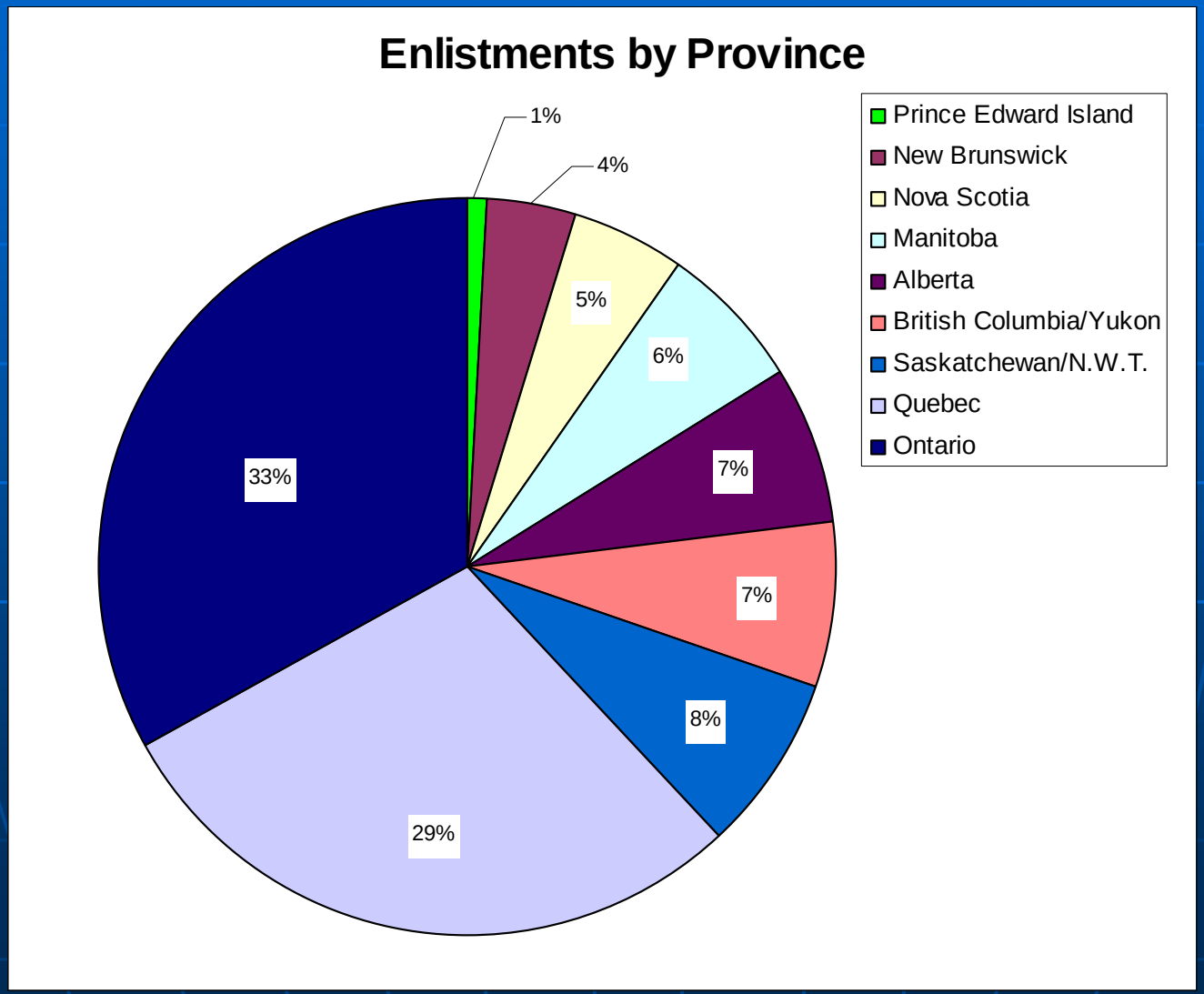
Province	Enlistments	Province	Enlistments
Prince Edward Island	9 309	**Nova Scotia**	59 355
New Brunswick	45 137	**Quebec**	176 441
Ontario	398 808	**Manitoba**	76 444
Saskatchewan/N.W.T.	80 605	**Alberta**	77 703
British Columbia/Yukon	90 976		

Statistics Canada Data

Population by Province, 1941 Census

Province	Population, 1941	Province	Population, 1941
Prince Edward Island	95 047	**Nova Scotia**	577 962
New Brunswick	457 401	**Quebec**	3 331 882
Ontario	3 787 655	**Manitoba**	729 744
Saskatchewan/N.W.T.	908 020	**Alberta**	796 169
British Columbia/Yukon	822 775		

World War II: Enlistments

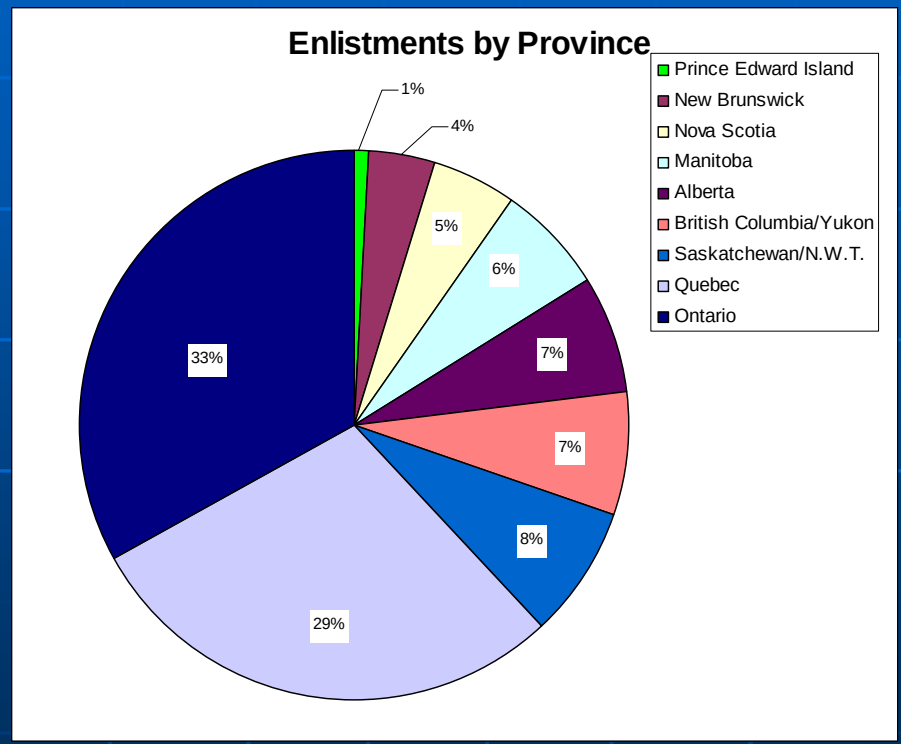


World War II: Enlistments

Data Display Explanation

This data display is a **“circle or pie graph”** because it displays data as segments of a circle.

“Each segment represents a particular category. The area of each segment is the same proportion of a circle as the category is of the total data set.” It shows the component parts of an entire group.



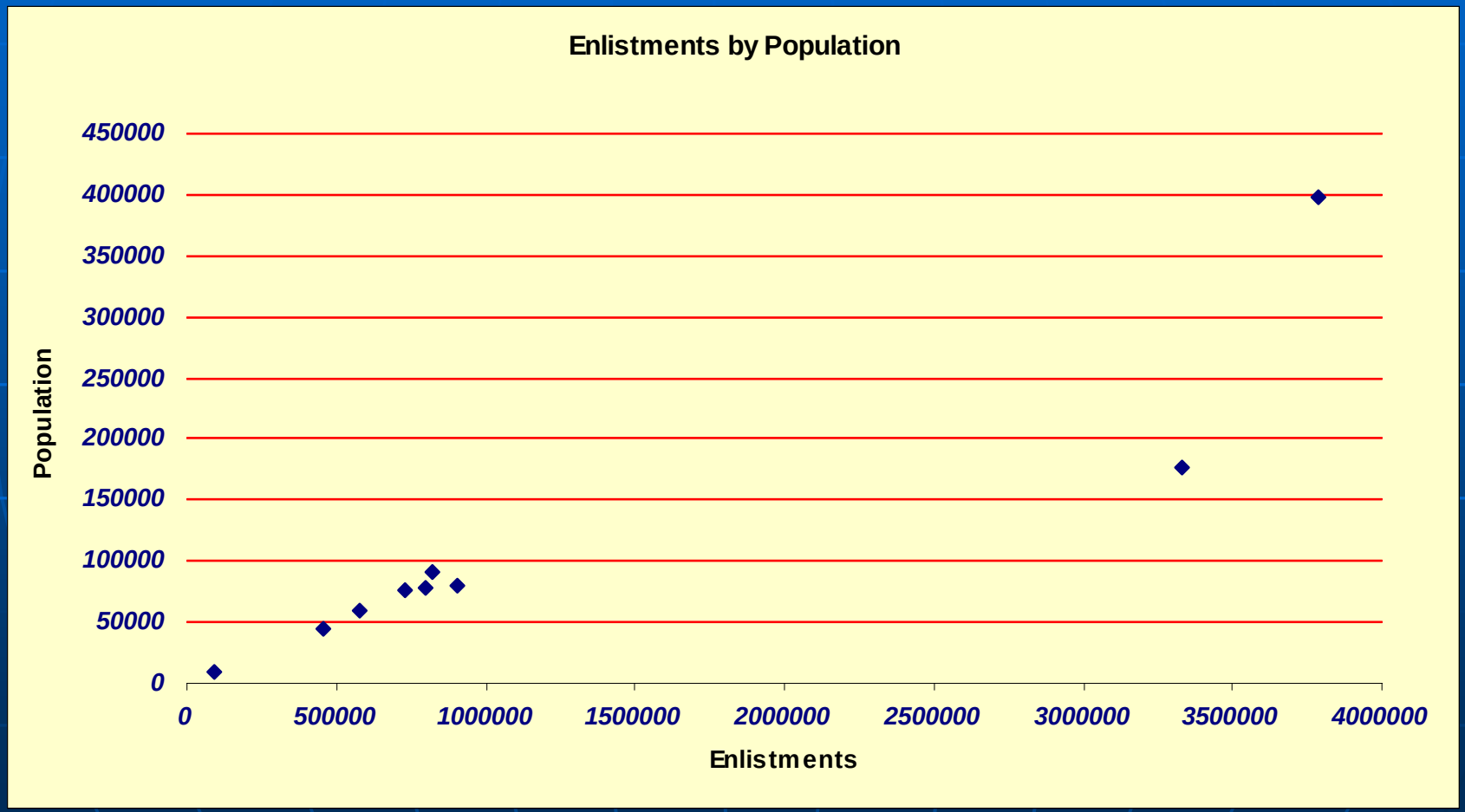
Quote source: “Statistics: Power from Data!” Statistics Canada. 2006. Government of Canada. 25 Jan. 2006 <http://www.statcan.ca/english/edu/power/toc/contents.htm>.

World War II: Enlistments Analysis

The greatest percentage of the total enlistments for World War II came from the provinces of Ontario and Quebec. This is as expected, since these are the two largest provinces in Canada, with the greatest population.

It would be interesting to see if the enlistments in each province were a similar portion of the total population.

World War II: Enlistments by Population

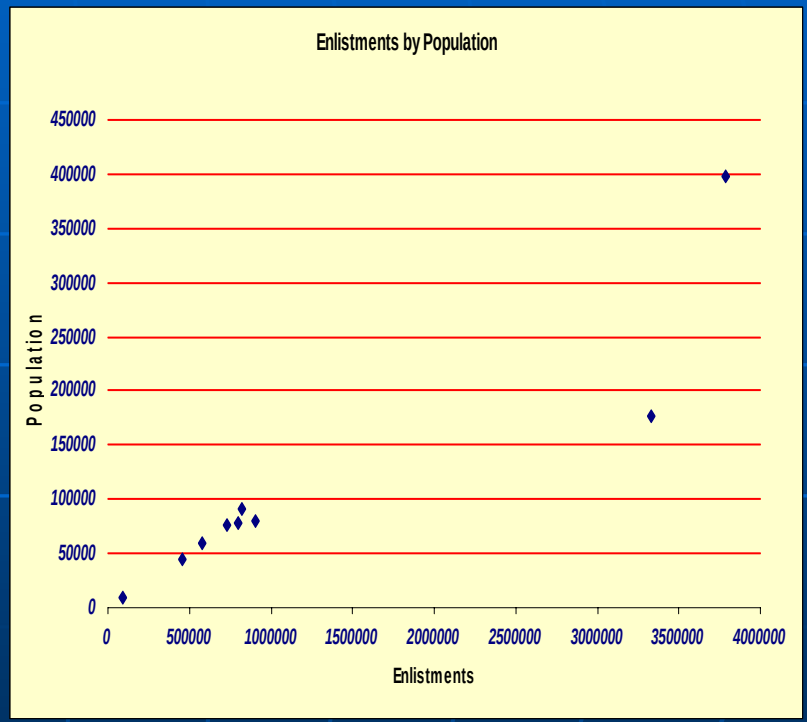


WWII: Enlistments by Population

Data Display Explanation

This is a **scatter graph**, or **scatterplot**. This graph compares sets of variables which are related in some way.

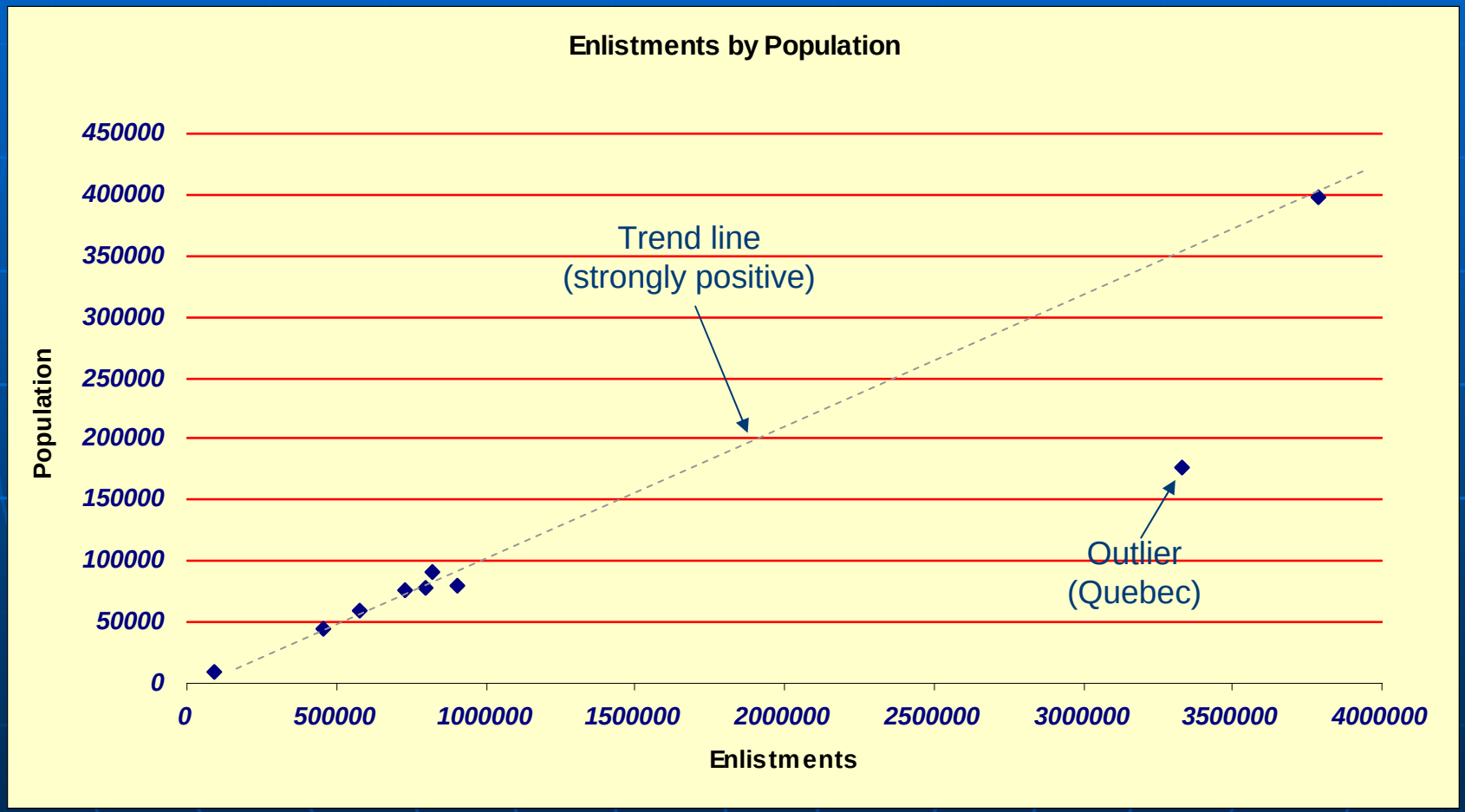
Scatterplots are used when looking for connections between related data. The pattern formed helps identify the strength and type of relationship between variables.



WWII: Enlistments by Population Analysis

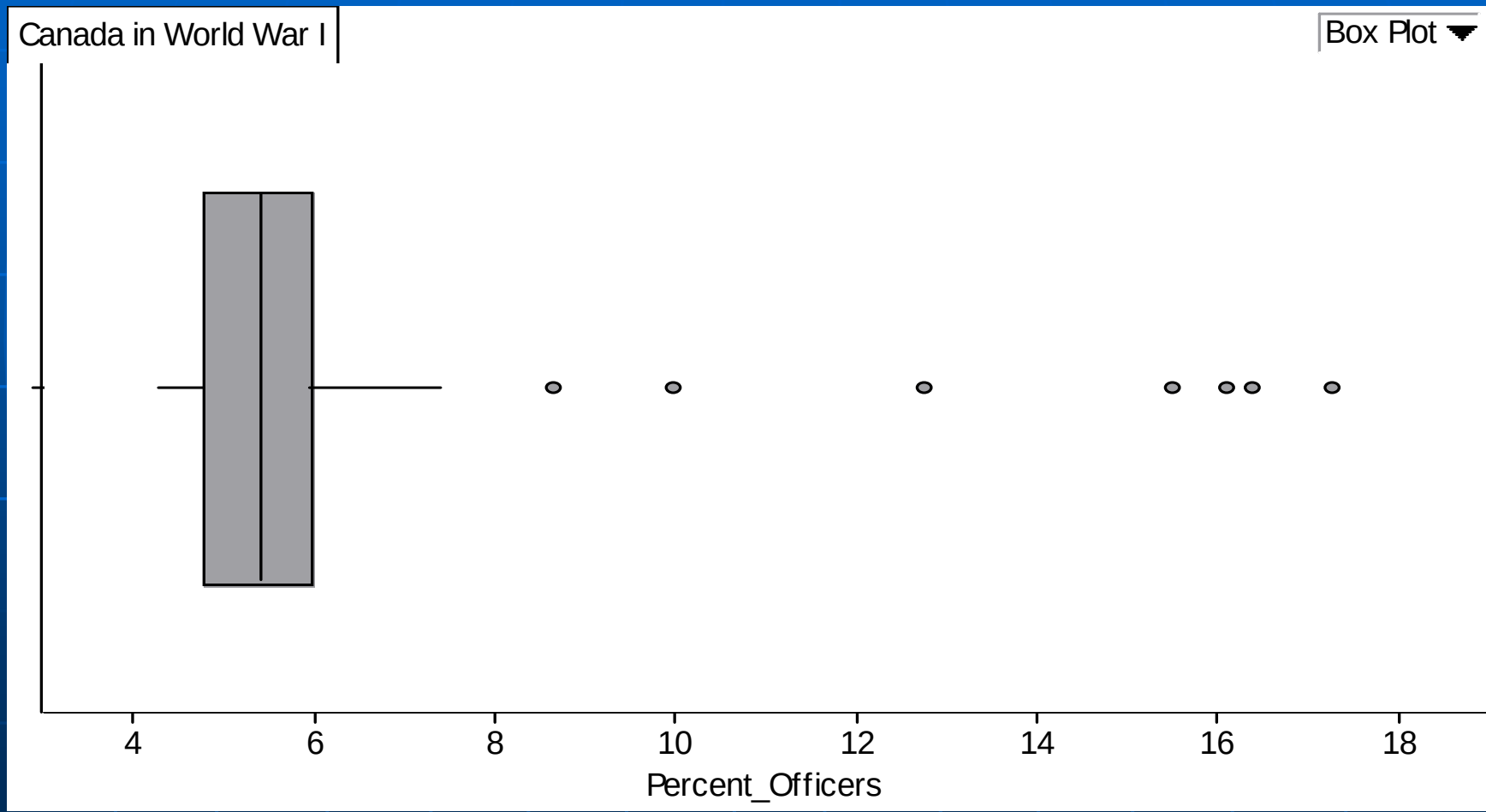
- There is a strong positive relationship between the population of a province and the number of men enlisted.
- A line (see next slide) drawn along the pattern for the majority of the points shows that 1 in 10 people enlisted in most of the provinces.
- There is one “outlier” (a value far from the pattern formed by the others). This is the point for Quebec.
- Further research may provide clues to explain why Quebec’s enlistment was so much lower than that of the other provinces.

WWII: Enlistments by Population Analysis



Military Structure, 1914 – 1919

Percent Officers to All Ranks



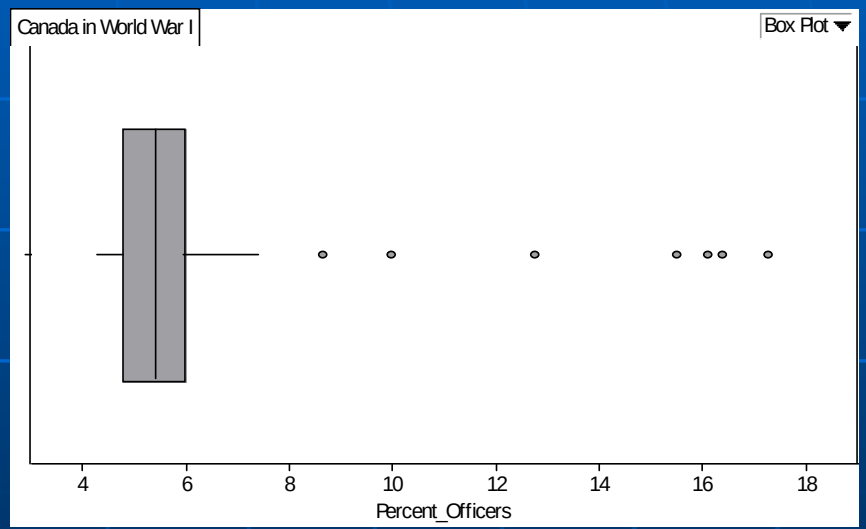
Military Structure, 1914 – 1919

Data Display Explanation

This graph is a **box plot** or **box-and-whisker plot**. It displays the spread or distribution of data by organizing it into four quarters.

The box shows the spread from the median of the lower half of the data (second quartile) to the median of the upper half of the data (third quartile). The median of all the data forms the vertical line within the box.

The “whiskers” show the upper and lower quartiles. Outliers are displayed as dots beyond the quartiles.



Military Structure, 1914 – 1919

The data used for this box-and-whisker plot was found in a publication through the website for the Department of National Defence. The data table is too large to include here but it is included in the bibliography.

The military strength at the end of each month was used, from data for September 1914 to November 1919.

Military Structure, 1914 – 1919 Analysis

The box-and-whisker plot shows that for most of the years in the data, the Canadian army maintained a consistent percentage of officers, around 5%.

The upper quartile approaches 8% and the outliers reach up to 17%. These data points are all from 1919.

Military Structure, 1914 – 1919 Analysis

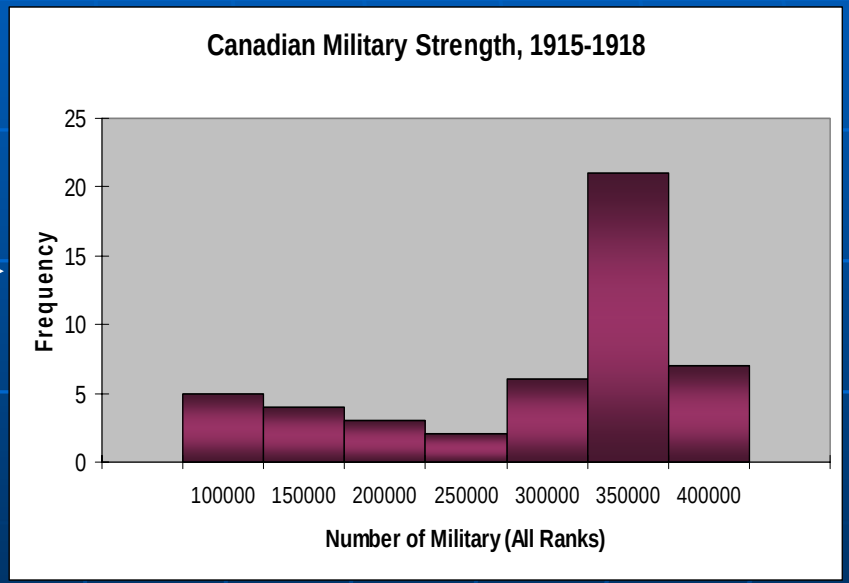
- The data for the upper portion of the box-and-whisker all come from 1919.
- Perhaps enlisted men were sent home and removed from the military more quickly than officers were.
- It is possible that there were more deaths among enlisted men during the Spanish flu pandemic.
- More research would be required to discover the possible reasons for these results.

Canadian Military in World War I

Canadian Military in World War I

Data Display Explanation

This data display is called a "**histogram**" because the data shows the frequency of occurrence for different numbers of participants through the war years (1915-1918)



Canadian Military in World War I

The data used for this histogram was found in a publication through the website for the Department of National Defence. The data table is too large to include here but it is included in the bibliography.

The military strength at the end of each month was used, from January 1915 to December 1918.

What did you learn from the graph? Let's Brainstorm!

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