Census at School for Grade 4 to 12 Mathematics

Attention - teachers!

Now is the time for your classes to participate in Census at School!

Census at School - get your class involved!

Last year, close to 20,000 Canadian students from Grades 4 to 12 participated in the Census at School international online survey at <www.censusatschool.ca>. Their teachers accessed their own class data to use in teaching about graphs, percentages and statistics. And since October, 2004 Canadian data are also available for making comparisons. Canadian results include the following:

- physical education was by far the most popular subject, followed by math
- relatives and friends led the list of students' role models
- in elementary school more boys than girls have milk (58% compared to 51%), cold cereal (56% vs. 47%) and eggs (32% compared to 24%) for breakfast, whereas more girls have fruit juice and bagels.
- cellphone use in secondary school (43%) was almost triple that in primary school (17%)

For other interesting facts from the Canadian survey, click on the link “Data and Results” when you are at <www.censusatschool.ca>.

You can obtain a random sample of up to 200 records from the Canadian database, as well as data from other countries - the UK, New Zealand, South Africa and Australia.

What this means is that teachers can conduct this survey in their own class and obtain their class results immediately for teaching skills of "collecting and organizing data", "analysing data", and "concluding and reporting", as listed in the Data Management and Probability strand of the grade 4 to 8 curricula. Then teachers can request data from other Canadian students for comparison with their class data. Teachers can also request data for students of the same age as their class from one of the 4 other countries participating in the survey. Students feel involved because they see themselves in the survey data. They are interested to compare themselves with other Canadian and foreign students of a similar age.

Below are the first few columns from a sample Canadian dataset selected by the random data selector. You can use these datasets to produce graphs manually or using software such as Quattro Pro, Excel, or Fathom.

Province	School Grade	Gender	Date of Birth	Age (years)	Height (cm)	Hand Span (cm)	Wrist (mm)	Foot length (cm)
British Columbia	4 to 8	Male	May-91	13	153	20	200	22
Newfoundland	9 to 12	Male	Nov-89	14	163	29	140	27
Manitoba	4 to 8	Male	Jun-91	12	168	22	175	29
Ontario	4 to 8	Female	Sep-91	12	155	16	165	24
Quebec	4 to 8	Male	May-90	13	166	20	160	24
Quebec	9 to 12	Female	May-89	14	163	21	161	24
Alberta	4 to 8	Female	Feb-93	11	148	13	150	23
Ontario	4 to 8	Female	Jul-93	10	134	18	140	19
Quebec	4 to 8	Female	Apr-90	14	168	20	160	25
Ontario	9 to 12	Male	Feb-86	18	175	20	180	26
Ontario	4 to 8	Male	Apr-92	11	173	16	150	26
Nova Scotia	4 to 8	Male	Aug-92	12	150	18	150	22
Quebec	4 to 8	Female	Aug-92	11	138	16	140	23
Ontario	9 to 12	Female	Sep-85	18	165	20	160	23

Newfoundland	4 to 8	Male	Dec-91	12	162	22	106	25
Ontario	4 to 8	Female	Jan-91	13	144	13	155	18
Ontario	9 to 12	Female	Sep-86	17	171	20	150	25
Ontario	4 to 8	Female	Apr-90	14	163	18	170	23

Learning activities suitable for Grades 4 to 8 and 9 to 12 bring students to **create graphs, make comparisons** and **draw conclusions** using class data and/or Canadian or international data; **investigate themes** such as their pets, how they get to school or their use of time; and **verify hypotheses** like: Do people who drink milk have bigger wrists?

Below is a list of Census at school lessons suitable for the Ontario grade 4 to 9 mathematics curricula. All are available under "Learning activities" once you go to www.censusatschool.ca. These lessons are listed below by the specific grades where they are most applicable for the Ontario curriculum.

Grade 4 -5

- What a Zoo! Examine bar graphs that represent the same data but use different scales.
- You are what you eat! Build bar graphs illustrating what we eat for breakfast.

Grade 6 - 8

- Circle and bar graphs Construct circle and bar graphs and compare them. Which one is better to use?

Grade 7

- Travel to school Analyze the data using stem and leaf plots and pie charts.
- How weird is our class?

Grade 8

- Bias or no bias? Consider the effect of bias on survey results.
- How many people live in a Canadian household?

Grade 9

Do you have big feet? Create a scatter graph of foot size against height.

- Exploring Linear Functions Request and receive data from the international Census at School site, transfer the data from a spreadsheet into a statistical software program, and model the data.

Grade 10 – 12

- Investigative sampling
- Math =GAMES?
- Data management activities using analytical software
- Body and mind
- Where does the time go?
- Bullying: studying to curb it

Additional Census at School lessons are available on the site for secondary mathematics. We will be adding new activities and lesson ideas to the website as this project develops.

Get your students actively engaged in statistical data enquiry by participating in Census at School at www.censusatschool.ca

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