

Name _____

Investigation 4: Do You Have Too Much Homework?

Worksheet 4.2 Directions for Using New Zealand Census at School Website

Scenario

The National Education Association (NEA) reported that survey data and anecdotal evidence show some students spend many hours nightly doing homework. According to research from the Brookings Institution and Rand Corporation, this homework overload is not the norm. Their researchers analyzed data from a variety of sources and concluded that the majority of US students spend less than an hour a day on homework, regardless of grade level, and this has held true for most of the past 50 years. In the last 20 years, the amount of homework has increased only in the lower grade levels. Source: <http://www.nea.org/tools/16938.htm>

Do you spend more time doing homework now than you did when you were in elementary or middle school? This investigation will look at the amount of time fourth, eighth, and 12th grade students spend on homework each week.

Statistical Question: _____

Collect Appropriate Data

How to use the Random Sampler.

Steps:

1. Go to the Census at School website: <http://new.censusatschool.org.nz>
2. Choose *Explore the data*
3. Select *Old random Sampler* under Past tools

CensusAtSchool
NEW ZEALAND

Take part in the census Explore the data Resources for teaching statistics

Explore the data

Download or explore a sample Explore the whole database

Download class data
Teachers: click on the download link in your registration email. If you have lost this email, [get it sent to you again](#).

CensusAtSchool New Zealand Questionnaires

2019 Questions, Ngā Pātai, Variables
2017 Questions, Ngā Pātai, Variables
2015 Questions, Ngā Pātai, Variables
2013 Questions, Ngā Pātai, Variables

Past tools

- Old random sampler
- Data viewer
- Table maker
- 2005 graphs: whole database

4. Select *I agree* to conditions of use.
5. Select *CAS USA* from dropdown Database (DB) menu
6. Select *Age_years_cat* from Subpopulation dropdown menu
7. Under the first Subpopulation, select - 9 for the age (approximate age of fourth graders). Unselect the other age groups.
8. Enter 75 for the sample size of the subpopulation (NOT Total sample size)
9. Select *Get My Sample*

Conditions of use:

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☒ I agree

Database (DB)

CAS USA

Subpopulation

Age_years_cat

☒ [-9]
☐ [10]
☐ [11]
☐ [12]
☐ [13]
☐ [14]
☐ [15]
☐ [16]
☐ [17]

Total sample size

(Max 1000)

or, give sample sizes for each sub-populations

Age_years_cat = [-9]

Get my sample

10. Select *Analyse sample with inzight lite*, which opens another window.
11. Use drop down menu under *Select first variable*. Choose *Activities_doing_homework_hours*.
12. Select *Summary* to see summary statistics. Record the summary Statistics.
13. Go back to the Census at School website. Click *Reset* at the bottom of the screen. Repeat the steps 1 to 12 above and collect a random sample of 13 year-olds (eighth graders).

Analyse sample with



OR

Download sample

Sample id: 51075656_040220_033258

Refresh Data **Reset**

14. Go back to the Census at School website. Click *Reset* at the bottom of the screen. Repeat the steps 1 to 12 above and collect a random sample of 17 year-olds (12th graders).

Analyze the Data

Use technology to analyze the fourth, eighth and 12th grade students hours of homework. Your analysis should include graphs and calculations that describe each grade level's distribution and help with the comparison of homework hours for each grade level.

Interpret the Results in the Context of the Original Question

Option 1: Write and orally present a report summarizing your results.

Your report and presentation should include the following:

- the statistical question that was investigated
- a description of the population sampled
- a summary of the sampling procedure
- plots of the collected data
- analysis and descriptions of the data, using calculations and the plots noting any unusual results
- a statement of conclusions about the statistical question
- recommendations for any follow-up studies or questions that may be investigated

Option 2: Create a poster and orally present the poster summarizing your results. A data visualization poster is a display containing two or more related graphics that summarize a set of data, look at the data from different points of view, and answer specific statistical questions about the data.

The poster and presentation should include the following:

- the statistical question that was investigated as the title of the poster
- a description of the population sampled (in the oral report)
- a summary of the sampling procedure (in the oral report)
- the organized collected data – tables and plots (at least 2 graphs)
- analysis and descriptions of the data, using calculations and the plots noting any unusual results (in the oral report)
- a statement of conclusions about the statistical question
- recommendations for any follow-up studies or questions that may be investigated (in the oral report)