

Y5 What do Year 5 students do at lunch time?

NEW July 2024

Year level: 5

Statistical focus: summary investigations

Approximate number of lessons: 1 - 2

Learning goals

- Explore summary (and comparison) situations
- Plan how to collect primary data
- Create and describe data visualisations for summary (and comparison) investigations, for example using a frequency table, bar graph, dot plot
- Answering investigative questions

Resources

- [2005 CensusAtSchool questionnaire](#)
- [Y5 What do Year 5 students do at lunch time? Google Slides](#)
- [Student Projects & Ethics - CensusAtSchool New Zealand](#)
- [Data Detective Poster - CensusAtSchool New Zealand](#)

Activity - Lesson 1

In this lesson the students will investigate what their Year 5 peers do at lunch time. The students will make predictions before the data is collected.

They can collect the primary data as a class survey or as a written survey. The data will be shared and statements recorded. Best statements can be shared and variables introduced.

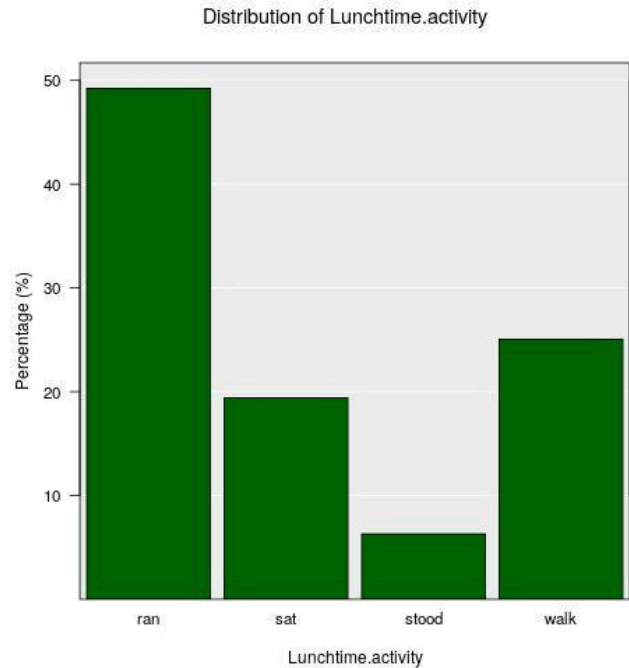
Introduction to the context

Back in the [2005 CensusAtSchool questionnaire](#), students were asked (see [slide 4](#)):

*At school last week, what did you do **most** of the time at lunchtime?* The four choices included were

- sat down
- stood around
- walked around
- ran around or played

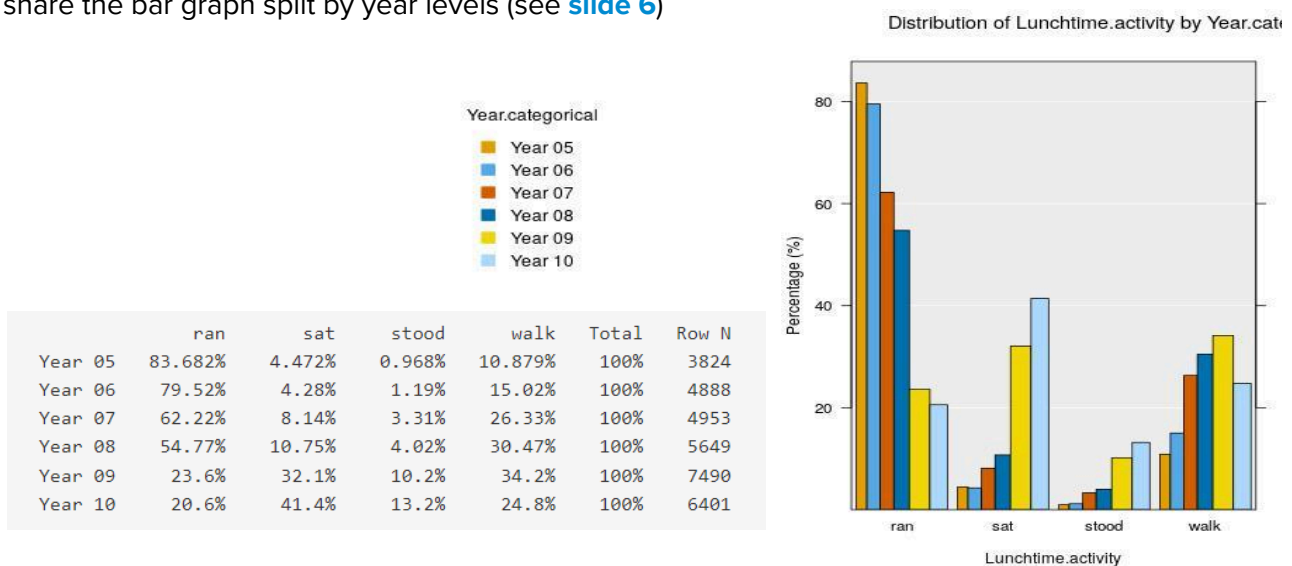
The bar graph (see [slide 5](#)) shows the distribution of the four choices back in 2005.



Ask the students what they notice and what they wonder? For example:

- They might notice that most common lunchtime activity was ran- ran around or played
- They might notice that the least common lunchtime activity was stood - stood around
- They might notice that just under 50% chose ran, about 25% chose walk - walked around, nearly 20% chose sat - sat around and about 7% chose stood.
- They might wonder what it was for year 5 students.
- They might wonder what it would be for their class, all year 5s at their school, all year 5s in New Zealand now.

Depending on what they say, *and maybe even if they don't mention wondering around year 5 options*, share the bar graph split by year levels (see [slide 6](#))



Ask the students what they notice and what they wonder? For example:

- They might notice that for year 5 it is the highest percentage that choose ran around or played, but for stood around, for year 5 it is the lowest percentage that choose stood around.
- They might notice that some of the bars are wider than the other bars...
- They might notice the different colours of the bars mean different year levels.

How relevant is this survey question for our students today?

What would the graph look like today?

Slides 7&8 are hidden, but could be used if wanted, they show the data split by regions in New Zealand.

? PROBLEM:

Pose the investigative question: ***What do children in our class do at lunchtime?***

Discuss and share the possible choices that can be made.

- For example, play on the playground, wander around the school with groups of friends at lunch time.
- *Are there any other activities that students choose to do at lunch time?* For example,
 - read in the library
 - play team sports with a teacher
 - ride their bike on the bike track,
 - use sports equipment
 - swap cards
 - play chasing games?
- As a class, make predictions of outcomes and what they expect to find out. Record these predictions to discuss at the end of the lesson.
- *Are there any other variables that need to be considered that will impact on student choices, for example*
 - the time of year
 - weather
 - day of the week
 - events
 - scheduled sports
 - boys/girls?
- Are there any ethical issues for collecting the data?
 - Some ideas in [Student Projects & Ethics - CensusAtSchool New Zealand](#)

Decide if there are other investigative questions to explore. For example,

- Using the survey question from 2005 *At school last week, what did you do **most** of the time at lunchtime?* We could pose an investigative question such as *What did children in our class do most of the time at lunchtime last week?*
- We might be interested in finding out about *what children in our class **like to do** at lunchtime*, discuss how this might be different to what they actually do..., or what they did **most** of the time.
- We could explore *what other activities children in our class **would like to be available**, [that are not currently] if it was possible, to do at lunchtime...*

Each of these investigative questions requires a slightly different survey question.

PLAN:

What data do we need to collect and how will the data be collected?

Once the investigative question(s) are confirmed, discuss the survey question we need to ask to collect the data from our class.

Investigative question	Possible survey question
What do children in our class do at lunchtime?	What did you do [most of the time] at lunchtime [today - if after lunch] [yesterday (or last school day if on a Monday) - if before lunch]? <ul style="list-style-type: none"> • Discuss if they want options • Discuss if they want people to select all the things they did or just the one they did the most...
<i>What did children in our class do most of the time at lunchtime last week?</i>	<i>At school last week, what did you do most of the time at lunchtime?</i> Choose from: <ul style="list-style-type: none"> - sat down - stood around - walked around - ran around or played
<i>What do children in our class like to do at lunchtime?</i>	What activities do you like to do at lunchtime? <ul style="list-style-type: none"> • Discuss if they want options • Discuss if they want people to select all the things they like or just the one they like the most... • Discuss if it has to be something they do a lot or not
<i>What other activities children in our class would like to be available, [that are not currently] if it was possible, to do at lunchtime?</i>	What activities would you like to be able to do at lunchtime that you cannot currently? <ul style="list-style-type: none"> • Discuss if they want options • Discuss if they want people to select all the things they would like to have or just the one they want the most... Or name one activity that you would like to be able to do at lunchtime that is currently not available?

Discuss possible additional variables to collect data about, e.g., day of the week, weather, time of year, boys/girls.

Students could be asked orally and the data recorded in a tally table or frequency chart or they could complete their own data card.

If the students decide to explore more than one investigative question, they could collect multiple responses on a data card.

DATA:

Students collect the data for the chosen investigative question(s) by answering the survey question(s). The data is recorded according to the plan e.g., using a frequency table, using data cards.

|| ANALYSIS:

Question: What is the best way to display the collected data?

A tally chart, frequency table, bar graph, dot plot. Should we make a bar graph to make a comparison to 2005?

Students can write descriptive statements about the findings.

💡 CONCLUSION:

Using evidence from the analysis, answer the investigative question(s). Choose the best statements to use.

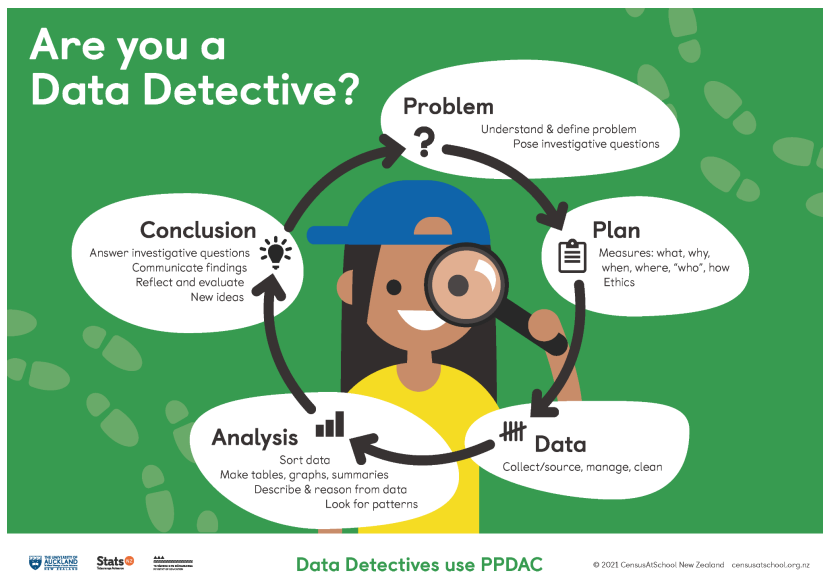
Refer back to initial predictions - did the data match their original predictions? What did they notice or surprise them about the data collected?

Follow up lesson

Make comparisons of data at different times of the year, for example Term 1 or Term 3.

Compare data to other Year 5 classes or different year levels in the school.

Question: When and how could they compare their data to other Year 5 students or other year levels? Would this be a useful survey to conduct each term? Would student choices change over the year?



Data Detective Poster - CensusAtSchool New Zealand