Y1 Carry your school bag - PPDAC cycles

NEW June 2024

Year level: 1

Approximate number of lessons: 1

Learning goals

- People and the environment are not data, but data can tell us things about people, their lives, and their environment.
- At this age, each step in the cycle will need to be led and supported by the teacher.
- Data visualisations are representations of all available values of one or more variables that reveal relationships or tell a story.

Resources

- Sticky notes or pre cut small pieces of paper
- Marker pens and paper to make labels
- **Y1 Carry your school bag Google Slides**

Activity - Lesson 1

Introduction

This lesson asks ākonga to be keen observers and make statements about the data they collect. They will experience the complete PPDAC cycle and see how their question can be answered by collecting data as a class. When introducing the lesson it would be helpful to have a range of school bag types that ākonga from around the country bring to school. These bags could be physical, real life ones or photographs. Think about showing bags with one strap, two straps, a cross shoulder bag, a bag with a pull handle and wheels, a carry bag with no straps and anything else that your ākonga bring as their school bag.

❓PROBLEM:

Pose the investigative question **'How do ākonga in our class usually carry their school bags?'**.

- Take the time to discuss all the different bag types and how people carry them.
- Include conversation around those ākonga who do not actually carry their own bag - Who carries their bag?
- How many straps do they carry it with?

- Is this different when an adult carries the bag rather than a child?
- Do we include this information when answering our question or do we only want the information when the child carries their bag?

📋PLAN:

Agree that the survey question that we need to ask is: **How do you usually carry your school bag?**

Discuss ways that bags can be carried and that school bags do not always have straps that go over a person's shoulders. Bags can be transported in many ways such as

- Two straps, one on each shoulder
- Two straps but only one over a shoulder
- One strap, across your body (cross body strap)
- One handle on a bag with wheels so not worn on the body
- No straps, carried in their arms

Encourage ākonga to discuss what they think should be included and what should not in their **Talk Partners** for 'how to carry' a bag. Then bring their thoughts back to the whole group. Decide the categories together to powershare with ākonga.

Once this has been decided, talk about what needs to be on the data collection sheet (example below) and design this together. One data sheet where each ākonga enters their own data is a simple way to show data that is not repeated or doubled up. Decide whether there will be one class data sheet, one per group or something else. Using one child and having them show the class how they carry their bag, the kaiako models how this is recorded on the data collection sheet. Working once again with their Talk Partner.
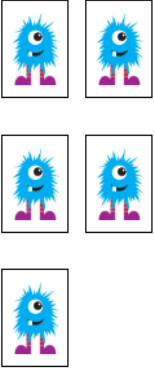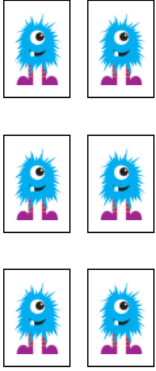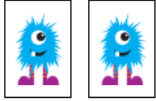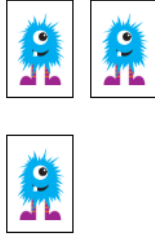
⊞DATA:

Now ākonga will be ready to 'collect' their data.

- They draw a quick sketch of themselves (or write their name) on a sticky note or small piece of paper (making sure all pieces of paper are the same size).
- Ask 'How can we use our sticky notes to answer the survey question?'
- With the support of discussion with their Talk Partner or kaiako each adds their sticky note to the table/chart to show how they carry their bag to school.
- The group can support those who are unsure by talking through the options before they place their sticky note on the table/chart.

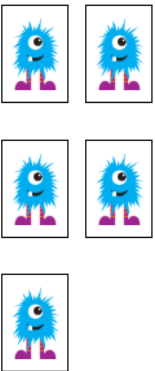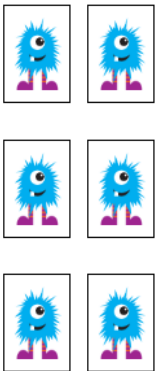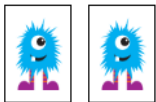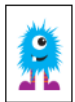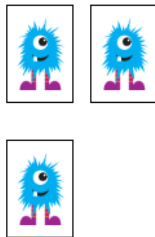Table/chart **How do you usually carry your school bag?**

Showing as an example how the sticky note or small piece of paper with their sketches might be put in a table/chart to collect the data.

Two straps, one on each shoulder	Two straps but only one over a shoulder	One strap, across your body (cross body strap)	One handle on a bag with wheels so not worn on the body	No straps, carried in their arms	Add or delete categories as needed/ desired

▁▁ANALYSIS:

To help answer the investigative question the data collected needs to be summarised.

- This can be done by counting the number ākonga in each category.
- A "count or frequency" row can be added to the table/chart and the number of ākonga in each column can be counted and the number recorded.
- To also use the sticky notes as part of the visualisation, ask ākonga to "line" them up so that visually the most common category can be seen as well.
  - This could be in pairs as in the image, or as singles.

Two straps, one on each shoulder	Two straps but only one over a shoulder	One strap, across your body (cross body strap)	One handle on a bag with wheels so not worn on the body	No straps, carried in their arms	Add or delete categories as needed/ desired
5	**6**	**2**	**1**	**3**	

Add labels and a title as a whole class so ākonga can see how this information helps others to be able to tell the data story with clarity.

While gathered on the whariki, ākonga follow the thinking routine of individual think time and then sharing with their Talk Partner. Use these suggested prompts while viewing the displayed data.. The kaiako scribes the ideas shared by ākonga as they talk about what they have noticed. Ask ākonga 'How could you describe what you see?'

- What do you notice about how people carry their bags?
- What can you say about what the data shows?
- Which is the most common way that people in our class carry ?
- What else do we need to know to answer our question?
- Is there anything missing for others to be able to 'read' our data?

From viewing the graph (table/chart) and the discussion, create statements together with the kaiako supporting where needed. Write statements together from the graph (table/chart) and display these alongside so that viewers can see the findings.

💡CONCLUSION:

Answer your investigative question **'How do ākonga in our class usually carry their school bags?'**.

- After answering this question you may find that ākonga naturally have more questions that they are curious about.
- Capture these by prompting with 'I wonder…'   I wonder if the way people carry their bag changes for different ages of ākonga? Or for different seasons of the year? I wonder if ākonga in _____ would have the same results?

Notes for teachers

In a Year One class beginning school and everything associated with it is very interesting to ākonga. You could look at many things that are part of starting school for creating statistical investigative questions from.   You could begin your focus on class and class data by listening to **'David Goes to School'** by David Shannon. Look closely at the pictures and see if there are similarities to your classroom to pose investigative questions about.

Now have a conversation with ākonga as to what else they are interested in finding out more about. Is it what people in their class do after school (eg sports, go to the park, go to after school care, music, art class etc) or something else. Start collecting these ideas in a space on your class wall so that everyone coming into your class can see the things you are interested in and have conversations with your ākonga about them.
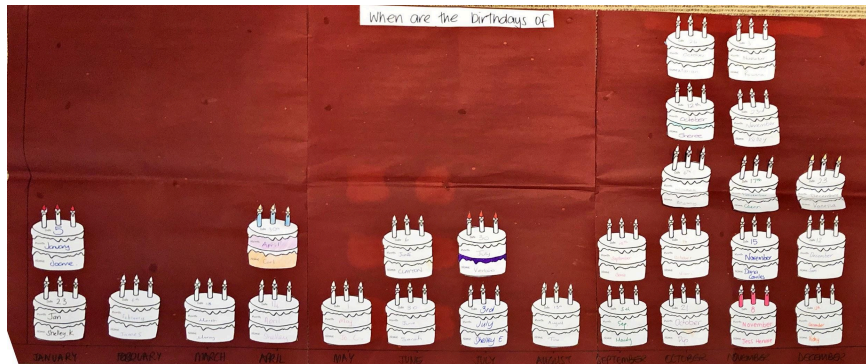
Picture graphs and pictographs

From Arnold, P. (2022). *Statistical investigations | Te Tūhuratanga Tauanga*. NZCER Press (pp. 227-228)
- Picture graphs and pictographs are graphical summaries that show a visual of the distribution of a categorical variable.

- In a picture graph, a picture or a symbol is used to represent one observation on the graph.
- In a pictograph, a picture or symbol is used to represent several items that belong in the same category.
- Pictures or symbols must be the same size and spaced the same distance apart.
- If different symbols are used for different categories then these need to be the same height and width.
- Picture graphs and pictographs show frequencies.
- Pictographs can be misleading especially if precise counts are required.

Examples

Investigative question: When are the birthdays of the students in our class?

Picture graph of birthdays for the students in our class

Investigative question: How do students at Karekare College get to school?

Key: One symbol = 20 students

Pictograph of travel methods to school for Karekare College students

Data Detective Poster