Fabulous feet

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.
- Data visualisations are representations of all available values of one or more variables that reveal relationships or tell a story.

Resources

- **CensusAtSchool Fabulous Feet Google Slides**
- **Guideline template** to paste student feet onto

Activity - Lesson 1

Introduction

This activity provides an opportunity for ākonga to learn about data stories through a practical task. Ākonga will learn to visually display their own data within the class data set and make statements about what they see. They will respond to a statement and collect data to test whether they agree or disagree with the statement.

?PROBLEM:

As a provocation ākonga are presented with the statement that **Most people have one foot that is longer than the other.**

Ask them to discuss whether they agree or disagree with this statement. The vocabulary of 'agree' or 'disagree' is a key point that you will come back to at a later stage. Ākonga to show their opinion, say to them 'If you agree then please stand by the door and if you disagree stand on the opposite wall (or whatever works for you and your space). Once ākonga are standing in one of the two places they discuss in their group the reasons for whether they agree or disagree with the statement. After this group discussion, select ākonga to report the main ideas back to the whole rōpū so everyone hears the reasons or thinking of others around this statement.

As a class, decide if you are exploring the idea that both feet are the same length or if one foot is longer than the other. Pose the investigative question **Are both our feet the same length?** (or **Is one foot longer than the other?**)

Talk about our wonderings as a rōpū. Wonderings could be ‘I wonder which foot will be longer?’ ‘I wonder whether that will be the same foot that is longer for everyone? ‘I wonder if one foot being longer is true for adults too?’

PLAN:

To answer the investigative question about all the students in the class, each individual student needs to collect data to see if **both their feet are exactly the same length?** (or **is one of their feet longer than the other?**)

Explain to ākonga that they will be making paper templates of their feet to help answer the investigative question **Are both our feet the same length?** (or **Is one foot longer than the other?**)

Give each ākonga two pieces of paper (one colour for their left foot and an alternative colour for their right foot). Working in pairs, trace around each foot as accurately as possible. The kaiako models tracing with accuracy versus tracing loosely that does not reflect the real length of their foot.

Ākonga cut their feet out, label the front of each foot with their name and Ⓛ or Ⓡ for each foot. Bring the paper feet to the whariki and sit in a circle so everyone can see.

Ask ākonga to place one paper foot on top of the other making sure they are matched at the heel. Try comparing the paper feet both ways, first with the left on the top and then with the right on the top. Ask ākonga to follow the thinking routine, **Think, pair, share**, to discuss what they notice. Ask ākonga to think about what they think the data might show.

DATA:

Now have ākonga glue their feet onto the provided **template** ensuring their paper heel sits on the guideline. By doing this it will be easier to visually see the differences in foot size for each ākonga.

ANALYSIS:

When ākonga share their noticings back with the rōpū draw out from this discussion whether they found

- Their left foot is longer
- Their right foot is longer
- Both their feet are the same length

Now have ākonga explore how they **might** show this information in a way that others can follow and understand. Listen to all ideas and decide together how to display the data collected. One at a time bring their pair of feet and contribute to the class pictogram by adding their feet as others watch and support.

Using these suggested prompts view the displayed data and discuss ākonga findings. The kaiako scribes the ideas shared by ākonga as they talk about what they have noticed. Ask akonga 'How could you describe what you see?'

- What do you notice about where people have placed their paper feet?
- What can you say about what the data shows?
- 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 picture graph and the discussion, create statements together with the teacher supporting where needed.

Go back to the statement '**Most people have one foot that is longer than the other'** and revisit whether now with their own class data they agree or disagree with the statement.

It is really useful to highlight that we all have opinions that can be explored, confirmed or discarded with the use of statistical data. When we are wondering about something there are ways that we can find useful information to answer our wonderings.

CONCLUSION:

Answer the class investigative question **Are both our feet the same length?** (or **Is one foot longer than the other?**). Share your statements from the analysis to display with your data so that others can view and see if they agree with your findings.

Notes for teachers

It is worth considering that some ākonga may not like others touching or tracing around their foot, indeed, they may not even be keen to take their shoes off and make a pair of paper feet. If this is the case for someone in your rōpū you could adapt this activity by having ākonga measure their feet at home and bring their paper feet to school with them or by having a set of paper feet pre prepared.

If ākonga are interested in and excited by this activity and their findings they may wish to take their finding further by

- Using the **CensusAtSchool data** for the length of left and right feet and seeing if it fits with what the class data findings are
- Measure the feet of an adult and bring these paper feet to school
- Decide on another body part to measure, thinking about whether you think the whole left hand side of people's body is longer than the right. Does being left handed or right handed affect the results?

You could use the thinking routine **Claim, support, question** to look beyond a simple agree or disagree as you explore some of the ideas suggested above.

Ways to extend the activity

Feet, fabulous feet: How big are Year One feet? (Thinking through mathematics) This unit uses a common context, foot size, to explore aspects of measurement and shape.

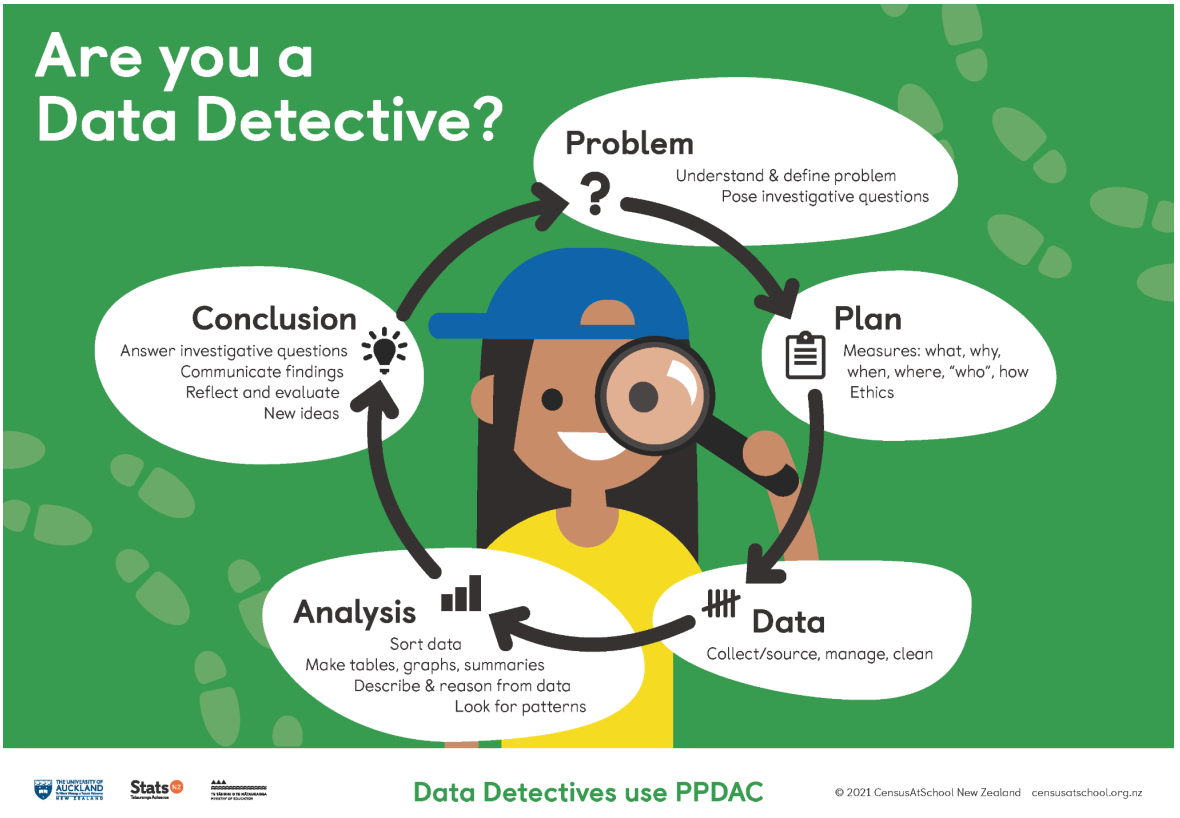
- Note: you need to register to gain free access to the resource

Activity created by NZMaths - **Big Feet**

- When a student suggested that boys have bigger feet than girls and another student said it was just a matter of how tall you are if your feet are bigger, the teacher decided to launch an investigation.
- Note: this is a year 5-6 activity, but may give ideas for further investigations

It may be of interest to explore 'feet' through literacy further with

- Footprint artwork
- Measurement of feet of a range of domestic and exotic animals (e.g. different breeds of dogs, Aotearoa native animals, animals by continent)



Data detective poster

Fabulous feet student materials

Resource list with preparation

Resource	Preparation required	Approx numbers
Guideline template for Y1 Fabulous Feet	Copy and cut out using the dotted lines. You want both feet to be glued onto the same piece of paper. 	One per student.

Guideline template for Y1 Fabulous Feet

Glue the left foot here
Heel sits on the red line

Glue the right foot here
Heel sits on the red line