

Summary of learning goals

- This sequence interprets data of significance for Australian society, and provides an opportunity to develop and use mathematical skills in a humanities and civics context. The mathematical goals are to extend the students' growing repertoire of data graphs to include side-by-side column graphs and 100% bar graphs.
- Students use knowledge of percentage, interpreted informally and also calculated.

Australian Curriculum: Mathematics (Year 6)

ACMSP147: Interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables.

ACMSP148: Interpret secondary data presented in digital media and elsewhere.

ACMNA131: Make connections between equivalent fractions, decimals and percentages.

Summary of lessons

Who is this sequence for?

- Students who have a good working knowledge of basic column graphs and are ready to learn to represent more complex datasets. They need to be able to represent fractions as percentages.
- Students will also need sufficient understanding of Australian history and society to fully engage with the issues relating to Reconciliation, including some understanding of how life looks from Aboriginal and Torres Strait Islander peoples' perspectives.

Lesson 1: Face the Facts

Students are presented with data from the 2016 Australian Reconciliation Barometer. They make interpretive statements about the data, then use the original survey questions to collect data from a local population. They compare their data to the original findings, using a side-by-side column graph.

Reflection on this sequence

Rationale

Mathematics extends beyond the physical and temporal restrictions of the maths classroom. The intention of this lesson is to use mathematics as a stepping-off point for a sensitive and personal reflection on attitudes towards Indigenous people and culture within Australia.

The Reconciliation Barometer presents data collected from a biennial attitudinal survey conducted by Reconciliation Australia. The statistics provide a confronting and provocative profile of general community sentiment.

The intention of this lesson is to provoke young Australians to think broadly and carefully about what values they wish to see encouraged in the society in which they live.



reSolve mathematics is purposeful

- Students work with data and represent responses to questions using percentages as a way to compare populations, developing fluency with number and calculations in the process.
- The Reconciliation Barometer highlights significant social issues. Mathematics provides tools and language to engage with issues and represent the facts. Students are encouraged to use their mathematical skills to examine the attitudes and values of Australian people.



reSolve tasks are inclusive and challenging

- All students can participate in the conversation around reconciliation. They are challenged to consider the issues of racism and prejudice from a personal perspective and reflect on their own thoughts.



reSolve classrooms have a knowledge-building culture

- Students are encouraged to take action from this lesson; to start talking in their own school and community about the issues of racism and reconciliation.

Acknowledgements

The staff at Reconciliation Australia were extremely helpful and supportive in the processes of developing the ideas behind this lesson. It is hoped that all Australian students will engage in the conversation around reconciliation and the future of our nation.

Face the Facts

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About this lesson

Students are presented with data from the 2016 Australian Reconciliation Barometer. They make interpretive statements about the data, then use the original survey questions to collect data from a local population. They compare their data to the original findings, using a side-by-side column graph.

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Mathematical purpose

- This lesson interprets data of significance for Australian society, and provides an opportunity to develop and use mathematical skills in a humanities and civics context. Students learn to use side-by-side graphs to represent data. They collect data from a survey, calculate percentages and present their findings as a graph.

Learning intention

- To conduct a survey to collect data that are then compared with an existing dataset.



Time

Two lessons of 1 hour each.



Vocabulary

- bar graph
- reconciliation
- side-by-side column graph
- survey



Resources

- reSolve PowerPoint *1a Reconciliation Barometer*
- [Student Sheet 1 – Reconciliation Barometer Survey](#)
- [Student Sheet 2 – Collect Your Own Data](#)

Starting the conversation



Resources: Start the reSolve PowerPoint *1a Reconciliation Barometer*.

Discuss slide 3: *What does 'reconciliation' mean?* Discuss each response on slide 5.

Go through the rest of the slideshow, discussing students' thoughts as you go through each slide.



Teacher notes:

- Slide 10 (*Australia is a racist country*) reverses the scale that is used in other questions by placing 'strongly agree' on the left and 'strongly disagree' on the right. Discuss why this might be and the effect it has.

Investigating data



Resources: After going through the PowerPoint give students Student Sheet 1 – Reconciliation Barometer Survey.

This shows the percentage of people who agreed to each question. Alternatively, you might ask students to record this as you go through the PowerPoint by doing quick addition.

Ask students to choose five statements that they wish to investigate further in their own surveys. They will need to select a target group (family, class, etc.) and ask members of their target group whether they agree or disagree with each statement.



Resources: They can record these responses on Student Sheet 2 – Collect Your Own Data.

Explaining findings

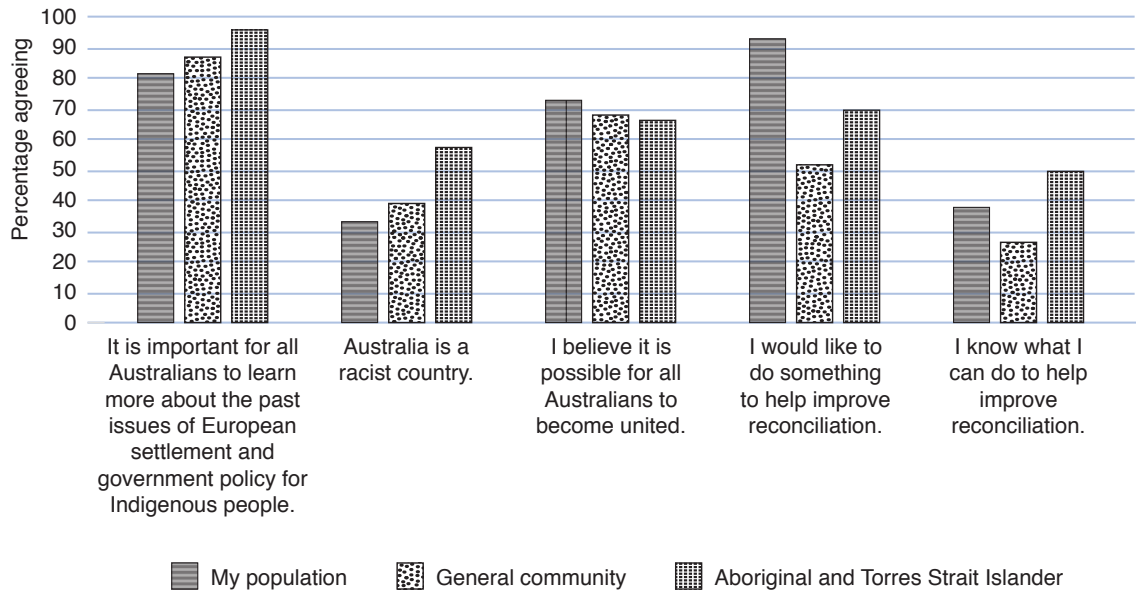
Have students use their completed survey to construct a graph that shows the responses to their selected statements from the three groups: Aboriginal and Torres Strait Islander population, general population, your population. To do this, they will need to convert their 'agree' results to a percentage.



Possible student response:

| | Agree | Agree % | Disagree | Disagree % |
|---|-------|---------|----------|------------|
| It is important for all Australians to learn more about the past issues of European settlement and government policy for Indigenous people. | 22 | 81.5 | 5 | 18.5 |
| Australia is a racist country. | 9 | 33.3 | 18 | 66.7 |
| I believe it is possible for all Australians to become united. | 20 | 74.1 | 7 | 25.9 |
| I would like to do something to help improve reconciliation. | 25 | 92.6 | 2 | 7.4 |
| I know what I can do to help improve reconciliation. | 10 | 37.0 | 17 | 63.0 |

What people believe about reconciliation



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Teacher note:

- This type of side-by-side graph is useful to show the response from each of the three groups for the various statements. It makes direct comparison very easy.

Ask students:

- *Was there anything in the data that surprised you? What was it? Why was it surprising?*
- *In which areas were the three groups closest in their responses? In which areas were they farthest apart?*
- *For each of the three groups, make a statement that can be supported by the data.*
- *Which of the five survey statements that you investigated would you like to explore more deeply? Why is this topic interesting to you?*

Reconciliation Barometer Survey

Name: _____

The table below is taken from the 2016 Reconciliation Barometer. It shows the percentage of people who agree with each of the Barometer statements.

| Reconciliation Barometer Survey Statement | General community | Aboriginal and Torres Strait Islander Australians |
|--|-------------------|---|
| It is important for all Australians to learn more about the past issues of European settlement and government policy for Indigenous people. | 87% | 96% |
| Race-based policies of previous governments have been a cause of discrimination among some Indigenous Australians. | 59% | 78% |
| The relationship between Indigenous people and other Australians is important for Australia as a nation. | 89% | 97% |
| Australia is a racist country. | 39% | 57% |
| I have experienced racial prejudice in the past six months. | 18% | 46% |
| Government departments need to do more to reduce problems of discrimination and prejudice between non-Indigenous and Indigenous Australians. | 58% | 78% |
| I believe it is possible for all Australians to become united. | 68% | 66% |
| I would like to do something to help improve reconciliation. | 52% | 70% |
| I know what I can do to help improve reconciliation. | 26% | 49% |
| Aboriginal and Torres Strait Islander cultures are important to Australia's identity as a nation. | 77% | 93% |
| I am proud of our Aboriginal and Torres Strait Islander cultures. | 60% | 90% |

Collect Your Own Data

Name: _____

Choose five statements from the Reconciliation Barometer from which to collect your own data.

Record these statements and conduct a survey asking people whether they agree or disagree with each statement.

| Statement from the Reconciliation Barometer Survey | Number who agree | Percentage who agree (%) | Number who disagree | Percentage who disagree (%) |
|--|------------------|--------------------------|---------------------|-----------------------------|
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |

Construct a side-by-side column graph that uses your data, the original data from the Reconciliation Barometer Survey for Aboriginal and Torres Straight Islander people and the data from the general community.

1. Was there anything in the data that surprised you? What was it? Why was it surprising?
2. For each of the three groups, make a statement that can be supported by the data.
3. Which of the five survey statements that you investigated would you like to explore more deeply? Why is this topic interesting to you?