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## Teaching notes

## How to use this resource

The mix of online and offline resources and tasks in this resource is intended to promote student understanding and capability with data representation and analysis. Students work mathematically and build their capacity to use a variety of Information and communications technologies.

### Explore

Students review Stage 4 work on the various ways to present data. They then view the Lucy Snowball masterclass which will present an opportunity for them to discuss data of interest to them in their local area in preparation for tasks 2 and 3.

### Your tasks

1. Brief Students should click on either the icons or the hyperlinked text to view each particular task in a pop-up window. Links have been provided if additional resources are required to complete the task.
2. Brief student instructions for using particular software programs are provided with each task. Other tutorials offering additional assistance are also available online.

| Task | Summary |
| --- | --- |
| Task 1:Summarising the statistical process | Students use Microsoft OneNote to make a summary of the five parts of the statistical process.1. If necessary, it may be useful to print the ABS information ahead of time.
2. Other sources including textbooks and other notes might also be useful.
3. It is helpful here to guide student thinking in relation to both task 2 and task 3.
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| Task 2: Create a survey | Students design key questions on a topic of interest and create a survey using Google Forms of Microsoft Forms.1. The drafts should be checked for suitability and updated before publishing.
2. Students can then send the survey by email to classmates or place it on a class website, blog or wikispace to gain responses to their survey.
3. Students can view their survey results or download them for use in task 3.
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| Task 3: Local Statistics | Students copy ABS data into a spreadsheet as a frequency distribution table. They use the chart wizard to create various histograms. They experiment with the statistical functions to calculate measures of location and spread in their analysis.1. If necessary, ABS data can be downloaded as spreadsheets prior to the lesson.
2. Use the large ABS datasets to discuss the effects of changing the size of the groups on the analysis of the data.
3. Students then design a brochure (perhaps for a new business entering the area) to display selected statistics and show comparisons and conclusions reached.
4. Consider sending the best brochures to relevant authorities.
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### Quality teaching framework

This resource has been developed to support pedagogy and improve student outcomes based around the NSW Quality Teaching framework, with particular focus on the following elements:

| Intellectual quality | Quality Learning Environment | Significance |
| --- | --- | --- |
| 1.1 – Deep knowledge1.5 – Metalanguage1.6 – Substantive communication | 2.1 – Explicit quality criteria2.2 – Engagement2.4 – Social support2.6 – Student direction | 3.2 – Cultural knowledge3.5 – Connectedness |