Flight of the osprey infographic

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| Year level  Strand(s)  Lesson length  CD Code: | * Year 5, Year 6 * Statistics * 75 mins * [AC9M5ST01](https://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/mathematics/year-5_year-6/content-description?subject-identifier=MATMATY5&content-description-code=AC9M5ST01&detailed-content-descriptions=0&hide-ccp=0&hide-gc=0&side-by-side=1&strands-start-index=0&subjects-start-index=0&view=quick) * [AC9M6ST01](https://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/mathematics/year-5_year-6/content-description?subject-identifier=MATMATY6&content-description-code=AC9M6ST01&detailed-content-descriptions=0&hide-ccp=0&hide-gc=0&side-by-side=1&strands-start-index=0&subjects-start-index=0&view=quick) |
| Lesson summary | In this lesson, students use data acquired during their learning about the osprey and information sourced online to design and create an infographic.  This lesson is the final lesson in a series of six lessons that connect the cross-curriculum priority of Sustainability, Statistics and the Science learning area: Science as a human endeavour. [AC9S5H01](https://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/science/year-5_year-6/content-description?subject-identifier=SCISCIY5&content-description-code=AC9S5H01&detailed-content-descriptions=0&hide-ccp=0&hide-gc=0&side-by-side=1&strands-start-index=0&subjects-start-index=0&view=quick), [AC9S6H01](https://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/science/year-5_year-6/content-description?subject-identifier=SCISCIY6&content-description-code=AC9S6H01&detailed-content-descriptions=0&hide-ccp=0&hide-gc=0&side-by-side=1&strands-start-index=0&subjects-start-index=0&view=quick) and [AC9S5H02](https://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/science/year-5_year-6/content-description?subject-identifier=SCISCIY5&content-description-code=AC9S5H02&detailed-content-descriptions=0&hide-ccp=0&hide-gc=0&side-by-side=1&strands-start-index=0&subjects-start-index=0&view=quick), [AC9S6H02](https://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/science/year-5_year-6/content-description?subject-identifier=SCISCIY6&content-description-code=AC9S6H02&detailed-content-descriptions=0&hide-ccp=0&hide-gc=0&side-by-side=1&strands-start-index=0&subjects-start-index=0&view=quick).  This lesson was developed in collaboration with Conservation without Borders. Data and information provided by Tweed Valley Osprey Project. |
| Learning intention | * We are learning about ways to represent and report on real scientific data. * We will use the research tasks to develop our data skills including using spreadsheets and creating charts. * We are combining all our information to create an infographic. |
| Success criteria | By the end of this lesson, students can:   * select data to communicate information * visually represent data * represent and communicate ideas in the form of an infographic. |
| Why are we learning about this? | Using the context of contributing to a research team helps us learn about the natural world. By gathering data, we can identify patterns, analyse trends and observe changes over time. Exploring basic technologies such as GPS tracking used by scientists enhances our understanding of data collection and analysis. Additionally, mastering the creation and interpretation of data displays is a crucial skill, as it allows us to communicate information effectively through visual means. |
| Prerequisite student knowledge and language | Prior to this lesson, it is assumed that students have knowledge of:   * sourcing relevant information using an online search * interpreting information in a table * using charts to represent data.   It is also assumed students are familiar with terms such as:   * infographic * threats * population * percentage. |
| **Resources** | * Lesson plan (Word) * Teacher’s slides (PowerPoint) * A large sheet of paper, markers and stickynotes * Sacha Dench profile poster * Access to computer/tablet and spreadsheeting software such as Excel (MS) or Numbers (iOS) and infographic software such as Canva for Education |

Curriculum information

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| Achievement standard | By the end of Year 5, students interpret and compare datasets for ordinal and nominal categorical, discrete and continuous numerical variables using comparative displays or visualisations and digital tools. They identify the mode and interpret the shape of distributions of data in context. They compare distributions of discrete and continuous numerical and ordinal categorical datasets as part of their statistical investigations, using digital tools.  By the end of Year 6, students compare distributions of discrete and continuous numerical and ordinal categorical datasets as part of their statistical investigations, using digital tools. |
| Content description(s) | Students acquire, validate and represent data for nominal and ordinal categorical and discrete numerical variables, to address a question of interest or purpose using software including spreadsheets; discuss and report on data distributions in terms of highest frequency (mode) and shape, in the context of the data. [AC9M5ST01](https://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/mathematics/year-5_year-6/content-description?subject-identifier=MATMATY5&content-description-code=AC9M5ST01&detailed-content-descriptions=0&hide-ccp=0&hide-gc=0&side-by-side=1&strands-start-index=0&subjects-start-index=0&view=quick)  Students interpret and compare datasets for ordinal and nominal categorical, discrete and continuous numerical variables using comparative displays or visualisations and digital tools; compare distributions in terms of mode, range and shape. [AC9M6ST01](https://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/mathematics/year-5_year-6/content-description?subject-identifier=MATMATY6&content-description-code=AC9M6ST01&detailed-content-descriptions=0&hide-ccp=0&hide-gc=0&side-by-side=1&strands-start-index=0&subjects-start-index=0&view=quick) |
| General capabilities  Cross-curriculum priority | General capabilities  Numeracy   * Interpreting and representing data ([Level 4](https://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/mathematics/year-5_year-6/general-capability-snapshot?subject-identifier=MATMATY5&content-description-code=AC9M5ST01&general-capability-code=N&element-code=NS&sub-element-index=0&sub-element-code=NSIRD&detailed-content-descriptions=0&hide-ccp=0&hide-gc=0&side-by-side=1&strands-start-index=0&subjects-start-index=0&view=quick))   Digital literacy   * Investigating: Interpret data ([Level 4](https://v9.australiancurriculum.edu.au/f-10-curriculum/general-capabilities/digital-literacy/slideout?code=DLIC4&element=1&sub-element=2)) * Investigating: Acquire and collate data [(Level 4](https://v9.australiancurriculum.edu.au/f-10-curriculum/general-capabilities/digital-literacy/slideout?code=DLIB4&element=1&sub-element=1)) * Creating and exchanging: Create, communicate and collaborate ([Level 4](https://v9.australiancurriculum.edu.au/f-10-curriculum/general-capabilities/digital-literacy?element=2&sub-element=1))   Cross-curriculum priorities  Sustainability   * Futures ([SF1](https://v9.australiancurriculum.edu.au/f-10-curriculum/cross-curriculum-priorities/sustainability/slideout?code=SF1&organising-idea=3)) |
| Areas of challenge | Some students may:   * have difficulty selecting relevant data to convey a message * have difficulty transferring data in a table to a visual representation such as a pie chart * have limited familiarity with working with data using a spreadsheet and infographic creation software * require support to interpret different charts and to choose the most suitable chart to represent a dataset. |
| Strategies | * Mathematics investigation * Collaborative learning * Explicit teaching |

Lesson structure

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| Learning hook  5 mins | * Use slide 2 to introduce the task of creating an infographic to convey a message about the plight of the osprey. * Explain to students that they will use the data they have acquired during the previous lessons learning about the osprey and also conduct an online search to find out about the osprey in Australia. * Explain that they will then use their data to create an infographic using software such as Canva for Education. |
| Explore  60 mins | Introduction (10 mins)   * Provide some examples of infographics to explore the way information is typically conveyed using text, imagery, charts and numbers including percentages (slides 3 to 7). * Explain that an infographic is a concise and effective way to communicate information. The infographic should be designed in such a way that it is easily understood and shared among different stakeholders. * Summarise the task (slide 8).   Class collaborative activity (50 mins)   * Organise students into small groups and provide access to relevant software to create the infographic. * Students should have access to their data and charts created during previous lessons. * Establish some important elements of the infographic and what data they already have and how it might be used. * Ask students to think about their key message and what data they will use to back up any claims made. * Encourage students to storyboard their infographic using a large sheet of paper, markers and stickynotes. The value of using stickynotes is that they can be easily moved, edited or replaced. * Allow time to create the infographic.   **Differentiation** (enable)   * How can you convey information using an infographic? What data do you already have? What data do you need to locate?   **Differentiation** (extend)   * How does the plight of the osprey compare across different locations around the world? |
| Summary and reflection  10 mins | * Have students display and share their infographics. * Encourage students to reflect on the process of selecting data to convey key ideas. Ask students to justify their choice of visuals and the information included in their design. |
| Assessment | Have students save the digital versions of their infographic.  Class collaboration and infographic   * How well did each group collaborate and share their data and charts to combine information into a final infographic? * How well did the data back up any claims made? * Have they interpreted the tables, charts and maps that they have included? * How well did they use numbers including percentages? |