**Yuendumu leaf game: representing stories**

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| Year level  Strand(s)  Lesson length  CD Code | * Foundation * Number * 45 mins * [AC9MFN02](https://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/mathematics/foundation-year/content-description?subject-identifier=MATMATFY&content-description-code=AC9MFN02&detailed-content-descriptions=0&hide-ccp=0&hide-gc=0&side-by-side=1&strands-start-index=0&subjects-start-index=0&view=quick) * [AC9MFN05](https://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/mathematics/foundation-year/content-description?subject-identifier=MATMATFY&content-description-code=AC9MFN05&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 second of three lessons, students are provided with the opportunity to play with their leaf families, and consider the many possibilities. They represent their leaf stories using pictures, numerals and symbols.  This lesson was developed in collaboration with Caty Morris and Aboriginal and Torres Strait Islander Mathematics Alliance (ATSIMA).  The original concept of the Yuendumu leaf game was developed by Kumanjayi Nangala. Permission has kindly been granted for use in this resource. |
| Learning intention | * We are exploring stories that involve addition and subtraction. |
| Success criteria | By the end of this lesson, students can:   * use objects to represent, role-play or tell stories that involve ‘adding’ or ‘taking away’ * use the language of ‘more’ and ‘less’ in their stories * notice and describe patterns * use pictures and numerals when representing their leaf stories. |
| Why are we learning about this? | Students have the opportunity to engage in a real-life mathematics experience that’s on Country/Place and connects with a First Nations’ culture, that is, connects mathematics with culture. |
| Prerequisite student knowledge and language | Prior to this lesson, it is assumed that students:   * know how to count small collections (of at least 5), applying the principles of counting * understand that it is the last number said that gives the count of a collection * know how to solve simple number story problems, which require students to add, take away or combine two amounts by imagining or role-playing the situation and counting the resulting quantity. |
| **Resources** | * Lesson plan (Word) * Teacher’s slides (PowerPoint) * Up to 10 gum leaves (or similar) of different sizes for each pair of students |

Curriculum information

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| Achievement standard | By the end of Foundation Year, students use subitising and counting strategies to quantify collections. Students represent practical situations that involve quantifying, equal sharing, adding to and taking away from collections to at least 10. |
| Content description(s) | Students recognise and name the number of objects within a collection up to 5 using subitising.[[AC9MFN02](link:%20https://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/mathematics/year-6/content-description?subject-identifier=MATMATY6&content-description-code=AC9M6N02&load-extra-subject=MATMATY6&detailed-content-descriptions=0&hide-ccp=0&hide-gc=0&achievement-standard=11833d02-a46b-48cf-89c2-794928028aa4&side-by-side=1&strands-start-index=0&subjects-start-index=0&view=quick)](https://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/mathematics/foundation-year/content-description?subject-identifier=MATMATFY&content-description-code=AC9MFN02&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 represent practical situations involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies. [AC9MFN05](https://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/mathematics/foundation-year/content-description?subject-identifier=MATMATFY&content-description-code=AC9MFN05&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   * Additive strategies [Level 2](https://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/mathematics/foundation-year/general-capability-snapshot?subject-identifier=MATMATFY&content-description-code=AC9MFN05&general-capability-code=N&element-code=NN&sub-element-index=0&sub-element-code=NNAdS&detailed-content-descriptions=0&hide-ccp=0&hide-gc=0&side-by-side=1&strands-start-index=0&subjects-start-indexhttps://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/mathematics/foundation-year/general-capability-snapshot?subject-identifier=MATMATFY&content-description-code=AC9MFN05&general-capability-code=N&element-code=NN&sub-element-index=0&sub-element-code=NNAdS&detailed-content-descriptions=0&hide-ccp=0&hide-gc=0&side-by-side=1&strands-start-index=0&subjects-start-index=0&view=quick=0&view=quick) * Counting processes [Level 2](https://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/mathematics/foundation-year/general-capability-snapshot?subject-identifier=MATMATFY&content-description-code=AC9MFN05&general-capability-code=N&element-code=NN&sub-element-index=1&sub-element-code=NNCPr&detailed-content-descriptions=0&hide-ccp=0&hide-gc=0&side-by-side=1&strands-start-index=0&subjects-start-index=0&view=quick) * Number and place value [Level 3](https://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/mathematics/foundation-year/general-capability-snapshot?subject-identifier=MATMATFY&content-description-code=AC9MFN05&general-capability-code=N&element-code=NN&sub-element-index=2&sub-element-code=NNNPV&detailed-content-descriptions=0&hide-ccp=0&hide-gc=0&side-by-side=1&strands-start-index=0&subjects-start-index=0&view=quick)   Critical and Creative Thinking | Inquiring   * Identify, process and evaluate information [Level 2](https://v9.australiancurriculum.edu.au/f-10-curriculum/general-capabilities/critical-and-creative-thinking/slideout?code=CCTINQA2&element=0&sub-element=0)   Cross-curriculum priority  Aboriginal and Torres Strait Islander Histories and Cultures   * First Nations Australians’ ways of life reflect unique ways of being, knowing, thinking and doing. [A\_TSIC2](https://v9.australiancurriculum.edu.au/f-10-curriculum/cross-curriculum-priorities/aboriginal-and-torres-strait-islander-histories-and-cultures/slideout?code=A_TSIC2&organising-idea=0) |
| Areas of challenge | Some students may:   * not yet be using one-to-one correspondence (for example, they are not yet coordinating the number names with pointing to or moving objects one by one). Use this lesson to highlight and practise counting accurately by ones * be using one-to-one correspondence accurately to count a small collection but may not yet be conserving number to ‘trust the count’ (for example, understand that counting the same collection a second time will yield the same answer each time). |
| Strategies | * Culturally responsive pedagogies * Concrete, Representational, Abstract (CRA model) * Differentiation |

Lesson structure

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| Learning hook  5 mins | * **Download and use the teacher’s slides to accompany your teaching.** * **Revisit the previous lesson by asking students to reflect and think about what the leaves represent and what they did during the lesson, using the relevant teacher’s slides.** * **Tell a leaf family story and have students represent and follow along using their own set of leaves.** |
| Explore  30 mins | * Organise students to work in pairs to think of their own leaf family stories. Then they will orally present this to the teacher or another group. * Choose one example to share and model with the whole group. Next pose the question, ‘How can we represent this in ways other than with leaves?’ * Discuss that pictures and numerals can be used to represent their stories. Show examples such as stick figures or drawings of shapes such as circles to represent the different family members. * Have another pair of students share their leaf story to the class. While they are sharing the leaf story, use teacher modelling to represent it using pictures and numerals. * Ask students to consider how they can represent their leaf story. * In their pairs, students draw and discuss their own leaf family story that they create using their own pictures and numerals. Encourage students to be creative with their representations.   Differentiation   * Support prompts: How many leaves are there? How many are left? * Enabling prompts: What could the leaves represent? Can you think of a story about them? Can you draw that with pictures and numerals? * Extending prompt: How can we use the leaves to tell a story? How can you represent that? |
| Summary and reflection  10 mins | * Ask students to share their representations of their leaf stories. * Highlight the different strategies used to represent the stories using a selection that reflects a range of mathematical processes. Provide opportunities for students to share their stories. |
| Assessment | * Use observation and informal conversations to assess students’ proficiency in using counting strategies to quantify collections. Keep a copy of each student’s work in their portfolio for assessment purposes, to show growth in learning. |