**Yuendumu leaf game: create a poster**

|  |  |
| --- | --- |
| Year levelStrand(s)Lesson lengthCD 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 final of these three lessons, students work in groups to reflect on and record their learning about representing number stories using Yuendumu leaf games and stories. They represent their leaf stories using pictures and numerals. 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
* Poster paper, sticky tape, pencils, markers
 |

Curriculum information

|  |  |
| --- | --- |
| Achievement standard | By the end of Foundation, 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](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 capabilitiesCross-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

|  |  |
| --- | --- |
| Learning hook5 mins | * **Download and use the teacher’s slides to accompany your teaching.**
* **Provide examples of representations of leaf stories for students to view (slides 2 and 3). Note slide 3 is animated by mouse clicks. Use mouse clicks to advance the leaf story based on animations.**
* **Use the representations to revise ideas covered in previous lessons that focused on telling leaf stories. Start with the leaf problems (slide 4) and move to representing the leaf stories using drawings and numerals (slide5).**

A screenshot of two slides. One shows the leaves a group of 8 leaves, next to it shown as a group of three leaves with a group of 5 leaves. The next slide shows the 8 leaves represented as 8 circles with the 3 circles and 5 circles. ***Slides 4 and 5**** **Ensure students are proficient at using a collection of leaves to tell number problems of addition and subtraction.**
* **Organise a small teaching group for students that require further support.**
 |
| Explore30 mins | * Organise students to work in pairs. Explain that students will be creating a poster to record 2 to 3 different family leaf stories. They will be representing this orally, using their poster that will include drawings and numerals.
* Discuss how 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.
* Invite a pair of students to share their leaf story with the class. While they are sharing, use teacher modelling to represent it using pictures and numerals.
* Ask students to consider how they can present their leaf story.
* Provide poster paper, sticky tape, pencils and markers.
* In their pairs, students draw and discuss their own leaf family stories that they create using their own pictures and numerals. Encourage students to be creative with their representations.
* Note: have students stick the gum leaves to their posters, however, after the posters have been shared, return the gum leaves to Country/Place where they were originally found.

Differentiation * Support prompts: Tell me about your leaf story. How many people are in your leaf story?
* Enabling prompts: What could the leaves represent? Can you think of a story about them? Can you draw that with pictures and numerals?
* Extending prompts: What different stories can you tell using your gum leaves? What is a useful way to represent your stories? How might an equation help you tell the story?
 |
| Summary and reflection10 mins | * Display the posters for students to view as a class.
* Select several stories and 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.
 |
| Assessment | * Use observation and informal conversations to assess students’ proficiency in using counting strategies to quantify collections.
* Assess students on their use of subitising to quantify collections without counting.
* Keep a digital copy of each student’s work in their portfolio for assessment purposes, to show growth in learning. Does their poster include examples of addition and subtraction? Do they count collections accurately? What counting processes do they use? Can they use ‘counting on’ strategy?
 |