



# Addition and Subtraction Stories

P.4.4

**Word Wall:** 'number stories', collections, quantity, compare, 'combinations to five', 'make a story about'

## Introduction

Students will create addition and subtraction number stories using concrete objects.

## Resources

- Double-sided counters
- Paper hands (or feet)
- Double sided counters
- Foam digits – 0-9
- Collection items to share.
- Show me a story cards
- Felt pieces
- Early Years FISH Cards
- Mandalany Kit



## Time / Classroom Organisation

These activities could be introduced in a small or large group context. Allow 20 minutes for each activity. Make materials available for experimentation and play. Repeat the activities using different materials.

## Australian Curriculum Prep

Represent practical situations to model addition and sharing (ACMNA004)

## Cross---curriculum priorities

Aboriginal and Torres Strait Islander histories and cultures

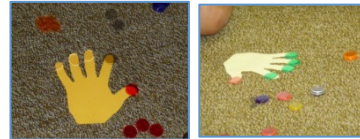
## Proficiency Strand:

- Understanding – connecting names, numerals and quantities
- Reasoning – explaining comparisons of quantities
  - Early FISH Strategy



## Activity Process---Hands and Feet

1. Use paper hands and feet to make combinations to 5 using double sided counters. Ask students to make a story about 5 by placing counters on each of the fingers of a paper hand.



2. Place felt numbers above each group of fingers to show *how many*.



3. Place the total number in the middle of the hand.
4. Ask students to find someone with the same story; different story. Write the number story: *2 and 3 makes 5; 2+3=5.*
5. Increase to 10 by using two hands, as students are ready.
6. Use paper feet as a variation on this game.


Source: E deVries & E Warren, 2011. *Building Mathematics in the Early Years*. Oxford University Press: Melbourne.



## Activity Process---Show Me A Story

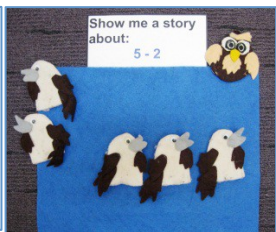
1. Use the felt pieces or small objects and the [Show me a story](#) cards
2. Select one story card and read aloud.
3. Ask students to use the materials to show you the story.
4. Support students in verbalising the story.

Show me a story about:  
**2 and 2 more**




There were 2 chickens with their mother. Mother hen clucked and 2 more chickens came. Then there were 4 chickens.

Show me a story about:  
**5 - 2**



5 baby kookaburras were sitting in a tree. A barn owl went "hoot" and frightened 2 away. There were only 3 left.

Show me a story about:  
**9 take-away 2**



9 bees were buzzing around their hive. 2 flew away to look for nectar. There were only 7 left back at the hive.



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## Variations & Extensions

### 1. A3 hands

Resources: A3 hands and double sided counters  
Use the A3 hands poster to complete the Activity Process – Hands and feet.

### 2. Make to 5. Make to 10

Resources: Make to 5 and Make to 10 Games  
Using the *Make to 5* game, ask students to find two numbers that make 5. Write the number story. Create a real life story, for example:

5	2	4	2	0
1	3	1	3	2
2	4	1	2	4
0	5	2	4	1
2	1	4	0	5

2 and 3 makes 5  
 $2 + 3 = 5$

Two butterflies were resting on a flower. Three more landed on the flower. Then there were five butterflies.

When students are ready, introduce the *Make to 10* game.

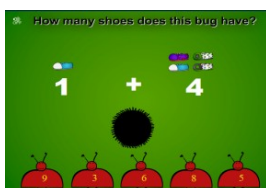
2	5	1	8	1
6	1	3	6	3
5	3	5	7	8
9	8	4	7	9
7	2	9	4	5

Make to Ten

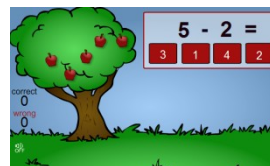
5 and 5 makes 10

## Digital Resources

<http://www.sheppardsoftware.com/mathgames/earlymath/bugalooShoes.htm>



<http://www.sheppardsoftware.com/mathgames/earlymath/subHarvest.htm>



<http://illuminations.nctm.org/Activity.aspx?id=3566>



## Contexts for Learning

### Play:

Leave felt board and materials out for students to build their own addition and subtraction stories. Provide whiteboards for students to represent their understandings.

### Investigation:

Ask students to make up new *Show me a story* cards. Write these on to cards and use them in group sessions.

### Real life experience:

Use any opportunity where materials are being used to bring attention to the number story, for example: during box construction -- *You have got one lid for the wheels – you need 4 altogether – how many more lids will you need?*

### Routines and Transitions:

Transition – students roll two dice and add the total.

## Assessment

### Hide the jelly beans

Provide a pair of students with a collection of 6 counters of the same colour, in a small container.

One student closes their eyes while the other student hides some of the objects under the unturned container. The first student opens their eyes and says how many are hidden. Observe the student doing the calculations to see what they know about the numbers and the strategy they use to calculate how many are hidden. You may need to increase or decrease the number of objects in the collection depending on the numbers the students are familiar with.

Source: Steps Professional Development. *First steps in Mathematics – Number Course Book*. ECU: Churchlands, W.A. p 37

## Prep Year Achievement Standard

By the end of the Foundation year, students make connections between number names, numerals and quantities up to 10. They compare objects using mass, length and capacity. Students connect events and the days of the week. They explain the order and duration of events. They use appropriate language to describe location.

Students count to and from 20 and order small collections. They group objects based on common characteristics and sort shapes and objects. Students answer simple questions to collect information.

## Background Reading

Using a variety of resources to enables children to internalise mathematical concepts from different starting points and different representations. Children develop greater resilience when they see the same mathematics represented in surprising and different ways. Helping them to describe and explain the differences and the difficulties in using very different representations will help them to internalise the mathematical concepts. Children who get this wider experience are more likely to use mathematics in a broader range of situations.

Source: T Brown & H Liebling. 2005. *The Really Useful Maths Book*. Routledge: Oxon. P. 52/

## Links to Related MAGs

P.2.4 – Make to 10

P.3.1 – Ten frames

1.1.6 – Addition and Subtraction Strategies --- 1



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