# Using storybooks to promote high quality mathematical talk
## Improving mathematics in the early years with children aged 3-7

**EVIDENCE FOR LEARNING**

Using storybooks can be one particularly effective way for children to learn about mathematics, and discuss mathematical ideas to extend thinking, offering rich opportunities for mathematical talk and questioning. Educators should carefully plan how to use storybooks by identifying key questions and discussion points to prompt exploration of specific mathematical concepts.

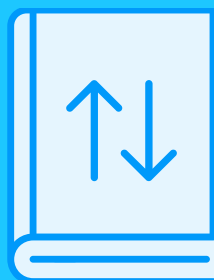This resource supports E4L's Guidance Report 'Improving mathematics in the early years with children aged 3-7'.

**Recommendation 2:**
*Dedicate time for children to learn mathematics and integrate mathematics throughout the day.*

Access the full report here: E4L.org.au/early-maths

There are a number of mathematics story and picture books available across a range of ages that can be powerful in engaging children with mathematical concepts. Development and Research in Early Math Education (DREME), an early mathematics research network based at Stanford University, provides evidence-informed guidance for educators and parents on choosing books with appropriate mathematical content. DREME produces 'Storybook Guides' to support effective use of the books, including ways to maximise the mathematical talk. The examples below are from DREME.

### Inside, Outside, Upside Down
by Stan and Jan Berenstain (1996)

Suitable for ages 2–4

In this storybook, a bear gets in a box that gets turned upside down, taken outside, and put on a truck. Children learn about spatial words.

Ways to promote mathematical talk during reading this storybook:
- Talk about what is happening in the picture, emphasising words that describe spatial relationships — *Do you see Brother Bear getting in the box? Where is the box going? How do you know?*
- Consider opposites — *What is the opposite of going on the truck? What is the opposite of getting inside the box?*
- Make predictions — *What might happen next in the story? If the box is upside down and we turn it around, will it still be upside down?*

### One is a Snail, Ten is a Crab
by April and Jeff Sayre and Randy Cecil (2003)

Suitable for ages 5–8

In this storybook, each page invites children to count the number of feet that people and different animals have.

Ways to promote mathematical talk during reading this story book:
- Explore counting the number of feet of different animals — *How many feet does an insect have? Can you show me with your fingers?*
- Practise adding one more — *What happens when we add one foot? How many feet do we have altogether? How do you know?*
- Explore counting by groups of 10 — *If we have two crabs, how many feet do they have altogether? How do you know?*

**Further Information:**
- DREME provides further guidance on using storybooks to promote mathematical discussion, including activities and discussion prompts for recommended texts.
- Mathematics Through Stories, a U.K. organisation that promotes the teaching of mathematics through stories, is another useful source for stories and resources.