COUNTING BACKWARDS

Ten Little Fish

Audrey Wood

Illustrated by Bruce Wood

Summary: The mother and son team of Audrey and Bruce Wood have created a "counting backwards" number book featuring a school of 10 multicolored, expressive tropical fish playing gleefully in their turquoise, clear water environment. As they swim around leisurely one fish disappears in each digitally generated double-page spread, leaving one less fish to count. Written in rhyming couplets, with the final number word appearing on the next illustration (e.g., "Six Little Fish, swimming to survive. One likes to hide, and now there are . . . ") creates a predictable text that is engaging and enjoyable.

INVESTIGATION: WHERE DID THEY GO?

Mathematics and Literature Experiences

Learning Expectations:

- To say the number sequence backwards by 1s, starting anywhere from 10 to 1, with and without concrete materials
- To solve word problems that relate counting backwards to subtraction
- To model with mathematics
- To apply a range of strategies to comprehend texts
- To read poetic text to build an understanding of the genre and for personal fulfillment

Learning Resources: Multiple copies of *Ten Little Fish*, numeral cards, storyboard, and counters or ten plastic fish

Read Aloud (Whole Group, Teacher as Reader):

- Explore the book jacket's illustration and title.
- Ask the following question:
  - What do you think the book is about? Why? Discuss responses.
- Read the title.
- Ask the following question:
  - What do you think the book is about? Why? Discuss responses. Relate the title to the illustration.

- Read the author's and illustrator's names. Share information about them—for example, mother and son team.
- Read first double-page spread. Allow time for the children to predict the last word in each rhyming couplet.
- After reading, "One Little Fish. What will he do?" allow time for the children to answer the question? Continue to read.
- If anyone initiates a discussion, allow for it.
- After **Read Aloud,** share how the illustrations are created—that is, digitally generated. Discuss this technique. Make reference to the same technique used by Todd Ouren in *One Big Building: A Counting Book About Construction* (Dahl, 2005).
- Place multiple copies of *One Little Fish* in a math center for independent, peer, and home reading.

Engage (Whole Group):

Task A:

- Dramatize the story. Choose 10 children to represent fish swimming. Provide remaining children with copies of the book *Ten Little Fish* to share. Open to the first double-page spread. Read together, "Ten little fish, swimming in a line." Ask the children (who are not fish) to do the following:
  - Count together to check that there are 10 children representing the 10 fish.
  - Present a numeral card to show how many or hold up fingers to show 10.
- Read together, "One dives down . . . " Choose a child from the swimming fish to dive down, and read "And now there are . . . "
- Ask the following questions:
  - How many are there now?
  - How do you know?
- Count the number of fish left as a recheck and to ensure accuracy. Alternately, one child can be selected to count and others count along. Model orally the language of the action: "There were ten fish and one dived down. Now there are nine." Later this will be related to subtraction.
- Some children (not the fish) show, using their fingers, the number of fish after one dives down; others show by holding up corresponding numeral card.
- The remaining fish (9) continue to "pretend swimming." Read together, "Nine little fish, swimming 'round a crate. One goes in, and now there are . . . "
- Repeat questioning as was just done to determine "how many there are" and why are there that many after one fish leaves? Relate language in the story to the actions and the mathematical language.
- Repeat for remaining numbers until one fish is left, as in the story.

Task B:

- Ask children to share times when they may have counted backwards in their lived world. Record responses.

Engage Observations:

- Do the children count the 10 fish accurately?
- Can they match a numeral card to the number of fish?
- As fish leave one by one, can they keep track on their fingers?
- As fish leave one by one, how do they know how many are left? Do they need to count? Is their counting accurate? Do they know the number that comes before another number?
- Can they state in complete sentences how many fish are left?
- Can they relate counting backwards to events in their lives?

Explore:

Task A (Partners, Whole Group):

- Partners make a storyboard and arrange 10 plastic fish (or counters) on a blue ocean storyboard.
- As the story is reread dramatize the actions with their fish, telling how many are left and justifying how they know. Print the numeral or place a numeral card by the storyboard to show how many are left after each action.
- Connect language in the story to the mathematics.
- Show 10 plastic fish (or counters). Count together to determine how many. As one fish is removed, children tell how many are left and how they know.
- Connect the language of "there are ten fish and one dives down, now there are nine" to subtraction.
- Record $10 - 1 = 9$, and say "There are ten fish and one dives down, now there are 9; 10 minus 1 is 9."
- Reread together the story, relating fish and actions to the numbers and symbolism until you reach $2 - 1 = 1$.

Task B (Whole Group):

- Together recite the number names backwards, starting at 10 (or any other number less than 10 according to needs of children). Repeat.
- Together recite numbers backwards with you saying every second number. Say 10, children say 9, you say 8, they say 7, continue to 1. Repeat.

Explore Observations:

- Are the children becoming more proficient in telling how many are left after one fish leaves?
- Do they need to count the remaining fish or do they just know the number?
- Are some children using the language and concept of subtraction to find how many are left—nine minus one so there are eight left?
- Are they more comfortable in telling how many are left for smaller numbers (e.g., 5 or less)?
- Can they relate the subtraction equations to the actions of the fish?
- Can they recite the number names backwards from 10?

Consolidate (Individual, Whole Group):

Task A:

- Say 3, 2, 1, and ask children to repeat. Record numerals, then have the children read the numerals.
- Follow with 6, 5, 4, and ask children to repeat. Record numerals; then have the children read the numerals.
- Repeat again if necessary.
- Ask children (or an individual child) to start at 6 and count backwards.
- Repeat with other starting numbers up to 10 (e.g., 8, 7, 6 or 10, 9, 8).

Task B (Individual, Partners):

- Each child has a set of numeral cards (e.g., 1–5).
- Starting with 5, they arrange the cards in descending order from left to right. Repeat for other cards—for example, 7 to 3 or 10 to 6; partners check each other's work.

Task C (Whole Group):

- Say a number between 2 and 10 (or hold up a numeral card); children in turn say the number that comes before it.

Task D (Individual):

- Print backwards the numbers from 10 to 1.

Task E (Partners):

Resources: Word Problems (Appendix A [4])

Note: *These word problems connect counting backwards to subtraction.*

- Make a copy of each problem for each pair of children. If necessary read each problem to the children, and allow time for them to find a solution.
- Share solutions with whole group. If children have not written equations bring their attention to a subtraction equation that could be used to solve the problem.

Consolidate Observations:

- Are children fluent in counting backwards?
- When counting backwards and forgetting the next number, do they count forward to find the number?
- When asked the number that comes before a given number, what strategies do they use to determine it? (**Note:** *Counting forwards to determine the next number when counting backwards is a good strategy and shows understanding.*)
- Are they able to find solutions to word problems and explain to others how they found the solution.
- Are they able to write a subtraction equation that could be used to solve a word problem?

Extend:

Task A:

- Extend counting backwards activities above to higher numbers—for example, 20. Using counters and a **100s Chart** (Appendix E [2]) may help children visualize the higher numbers as they count backwards.

Task B (Whole Group):

- Reread *Mouse Count* (Walsh, 2001). After reading, "And while he was gone, the mice rocked the jar one way, and another way, until over it went," children join in to count backwards (uncount), "Ten, nine, eight . . . " The same **Task** may be done with *The Big Storm: A Very Soggy Counting Book* (Tafuri, 2009).

Reflection and Discussion:

Children (Individual or Small Group, Teacher-Posed Questions):

- Which do you find easier to do: counting forward from 1 to 10 or counting backwards from 10 to 1? Why?
- What strategies do you have for counting backwards? Do they always work? What do you do if they don't?
- When do you think counting backwards is useful for you?

Teacher(s) (If possible, share and discuss responses with colleagues.):

- Do your children find counting backwards more difficult than counting forward? Why do you think that is so?
- What other instructional strategies do you have to help children count backwards?
- Do children find it more difficult to say the names of the numbers backward than arranging the numbers backwards using the number cards 10 to 1?
- How do you know if children relate counting backwards to subtraction?
- What changes would you make to this **Investigation** if you were to use it again? Why?