Hands on Books

Jan, Sam, and Peg told their teacher that they love to look at books. They each had 2 books in their hands. How many books did their teacher see?

Hands on Books

Suggested Grade Span
Grades Pre K–2

Grade(s) in Which Task Was Piloted
Grades K and 1

Task
Jan, Sam, and Peg told their teacher that they love to look at books. They each had 2 books in their hands. How many books did their teacher see?

Alternative Versions of Task

More Accessible Version:
Jan, Sam, and Peg told their teacher that they love to look at books. They each had 1 book. How many books did their teacher see?

More Challenging Version:
Jan, Samantha, and Peggy told their teacher that they love to look at books. They each held the number of books that matched the number of letters in their name. How many books did their teacher see?

NCTM Content Standards and Evidence

Number and Operation Standard for Grades Pre K–2

Instructional programs from pre–kindergarten through grade 12 should enable all students to…

- Compute fluently and make reasonable estimates.
  - ***NCTM Evidence:*** Develop and use strategies for whole–number computations, with a focus on addition and subtraction.
  - ***Exemplars Task Specific Evidence:*** This task requires students to use repeated addition to determine the total number of books.

Time/Context/Qualifiers/Tip(s) From Piloting Teacher
This is a short to medium length task.

Links
This task could link to "I Love to Read and Write" celebrations.

Common Strategies Used to Solve This Task
Most students will create diagrams to solve the task. Others may take a more numeric approach.

Possible Solutions
Original Version:
3 students x 2 books each = 6 books in all

More Accessible Version:
3 students x 1 book each = 3 books in all

More Challenging Version:
Jan (3 books)
Samantha (8 books)
Peggy (5 books)
3 + 8 + 5 = 16 books in all

Task Specific Assessment Notes
General Notes
This task may be too easy for some students. If the student immediately arrives at a solution without employing problem–solving strategies, a more appropriate leveled task should be assigned to that child.

Novice
The Novice will show a rudimentary understanding of the task, but it will not lead to even a partially correct solution. For instance, the student may show three people, but will not portray two books per person. They will demonstrate little or no correct reasoning or justification of work shown. Little or no math language will be used, or it will be used incorrectly.

Apprentice
A partially correct solution will be achieved, but omissions will lead to an incorrect or incomplete solution. For example, the student may not identify a total number of books, or will make a counting or computation error. An Apprentice will use some math language correctly and some correct reasoning may be present. There will be an attempt at using math representations to communicate the solution and assist with understanding.

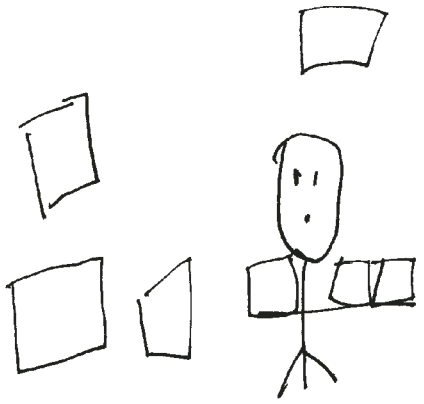
Practitioner
The Practitioner will achieve a correct solution and all work will be shown and labeled. All parts of the task will be successfully addressed and representations will help organize and display the solution. A Practitioner will use math language to communicate the solution and mathematically relevant observations will be made.

Expert
The Expert's work will be clearly labeled and organized and math representations and language will clarify thinking and communicate with the audience the approach and reasoning used. A correct solution will be achieved and math connections will extend the solution.

Novice

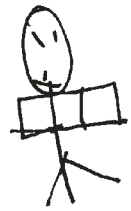
Dictation is taken by the teacher to record the student's thoughts on the approach and reasoning used.

"These are my books."
-Scribed by Teacher

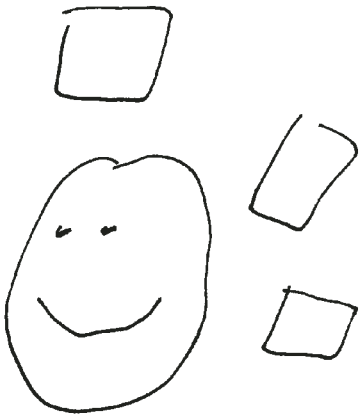


"This is Ty."

"Yep, we like books."



"This is Cole."



"This is me. I like books"

The student seems unable to represent two books per person, and so will not make progress toward a solution.

Apprentice

Commentary is written by the teacher to record the student's thoughts and the approach and reasoning used.

Note from Teacher:
The student drew a diagram, then drew kids with two books. S/he counted 1, 2, 1, 2, 1, 2. The student has difficulty with "altogether".

The student is not able to achieve a total number of books, but has part of the solution correct.

Practitioner

Dictation is taken by the teacher to record the student's thoughts on the approach and reasoning used.

A correct answer is achieved.

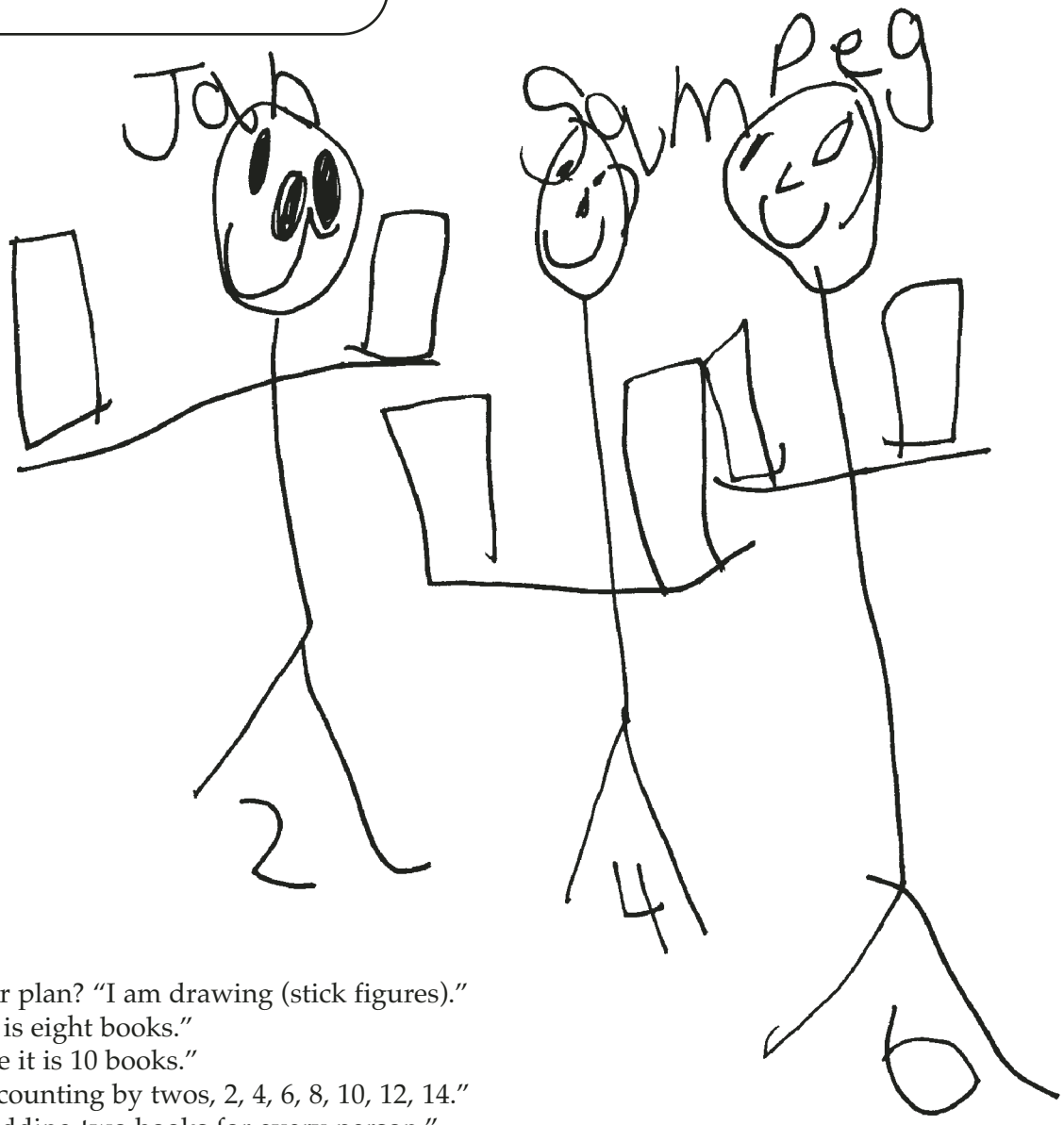
"They had three names so I drew three people. Each kid had two books. When I counted the books there were six."
-Scribed by Teacher

Reasoning is correct and supported with documentation through the use of diagrams.

Expert

Dictation is taken by the teacher to record the student's thoughts on the approach and reasoning used.

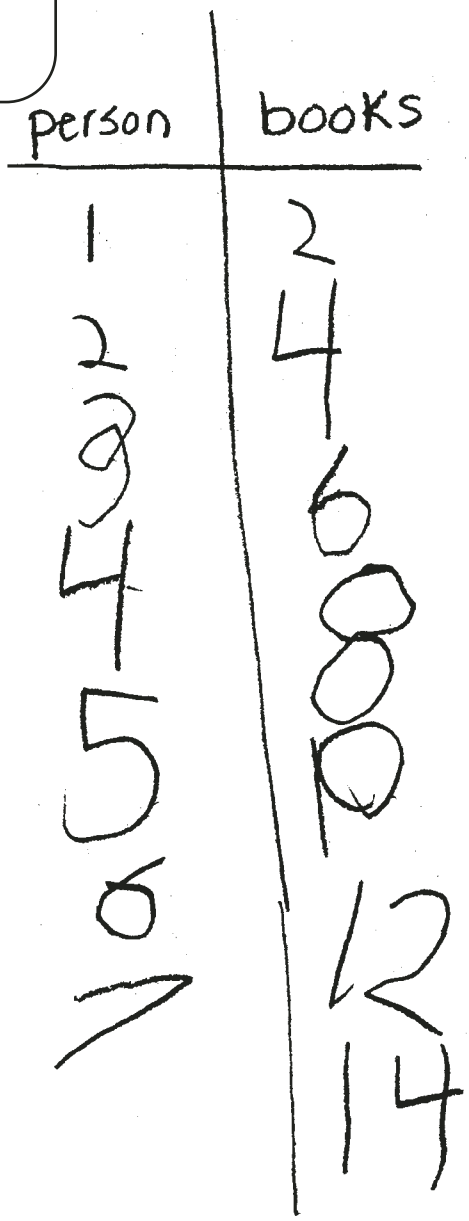
"This is my diagram."
"I made rectangle books."
-Scribed by Teacher



"It's six."
What is your plan? "I am drawing (stick figures)."
"If I came it is eight books."
"If you come it is 10 books."
"You go by counting by twos, 2, 4, 6, 8, 10, 12, 14."
"You keep adding two books for every person."
-Scribed by Teacher

Expert cont.

A correct answer is achieved. All work is shown and labeled. Math language is used throughout.



The student extends the solution for four through seven people. The student states underlying patterns.

"I can keep on going."
-Scribed by Teacher