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Student Name: _____

Kindergarten Numeracy Development: Attending and Participating

Developmental aspects	Emerging With direct support… →	Developing With guided support… →	Applying With minimal support… →	Extending →
The Child	With direct support, and teacher modeling, may participate and may attempt to make sense of mathematical experiences.	With guided support, demonstrates a willingness to explore mathematical ideas while participating in problem solving experiences. Is beginning to show an awareness of number, space and time used in everyday life.	With minimal support, demonstrates interest in and a willingness to explore mathematical ideas while purposefully participating in problem solving experiences. Communicates an awareness of how number, space, and time are used in everyday life.	Shows interest and curiosity while purposefully exploring mathematical problem solving experiences. Perseveres. Makes and explains connections to number, space and time as used in everyday life.
Dispositions				
Attending, participating; showing interest, curiosity, engagement, perseverance	With direct support, may attend to and may participate in some familiar mathematical problem solving situations.	With guided support, shows interest in and participates in familiar mathematical problem solving situations.	With minimal support, purposefully engages in, and makes some attempt to solve familiar problem solving situations.	With confidence, curiosity, perseverance uses a range of strategies to make sense of familiar and new situations.
The Support/Scaffolding*	The Model: showing, instructing, explaining, directing, making explicit, demonstrating, giving examples	The Coach: structuring, sequencing, focusing, cueing, guiding, organizing, supporting	The Advisor: suggesting, reminding, prompting, monitoring, asking for elaboration	The Mentor: extending, stretching, wondering aloud, exploring, "what if-ing"
***a variety of supports (teachers, peers, environmental, etc.) can be provided at any stage of development**				

Scenario: Every day, all together, the class determines how many boys, how many girls and how many children are present. All the girls stand, and everyone counts as the teacher points. The child sits as she is counted…this emphasizes one to one correspondence. Teacher asks, "How many girls?" and records, e.g., 12 girls. Then the boys are counted and recorded, e.g., 9 boys. Then everyone stands. The teacher asks, "How do we find out how many children are here all together?"

Direct Support

Vinita observes but does not actively participate, and seems unaware of the count matching the children as they sit. Using direct support, the teacher *explains* how to join the count, and *shows* her the one-to-one connection of counting and sitting. Vinita is hearing and seeing the count, but is not actively engaged with the process.

Guided Support

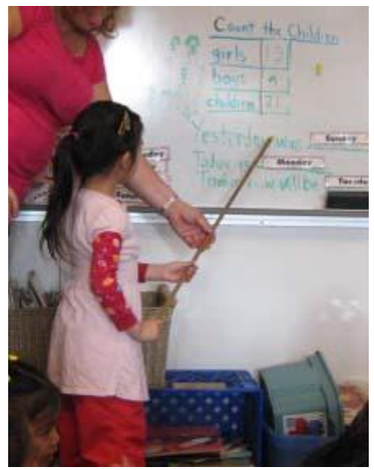
Andrew actively joins in the count and needs guided support to match the count to the children as they sit. The teacher uses exaggerated hand movements to *guide* the count, and this helps Andrew with the one-to-one correspondence. When the teacher asks, "How many girls?" she *cues* Andrew to recount, and *supports* him when he is unsure.

Minimal Support

With minimal support, Hu Dae actively participates in the counting. He *prompts* the girls to sit when they have been counted. He is aware that the last number of the count represents the total number of girls. When the teacher *asks,* "How do you know it is 12 girls in all?" he responds, "We counted 12 and I remember."

Without Support

Aoife tolerates the slow count, at the end, commenting, "We know it is 12 because there are 12 girls in our class and no one is away." Without support, she predicts there will be 8 boys because Bubba is away. She tells everyone there will be 20 in all, because there are usually 21 children. The teacher *wonders aloud*, "How can we see if Aoife's prediction is right?"



The inclination or disposition to make sense is a critical aspect of numeracy. In the Curriculum and Education Standards *(National Council of Teachers of Mathematics 1989, p. 233), seven components of mathematical disposition are identified:*

1. confidence *in using mathematics*
2. flexibility *in exploring mathematical ideas*
3. *willingness to* persevere
4. *interest,* curiosity*, and inventiveness*
5. *inclination to monitor and* reflect on own thinking
6. valuing *the application of mathematics*
7. appreciation *of the role of mathematics*

BC Primary Program, pp. 15