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Second graders articulating ideas about linear functional relationships.

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Summary: In this paper, we explore the ideas that second grade students articulate about functional relationships. We adopt a function-based approach to introduce elementary school children to algebraic content. We present results from a design-based research study carried out with 21 second-grade students (approximately 7 years of age). We focus on a lesson from our classroom teaching experiment in which the students were working on a problem that involved a linear functional relationship ($y = 2x$). From the analysis of students' written work and classroom video, we illustrate two different approaches that students adopt to express the relationship between two quantities. Students show fluency recontextualizing the problem posed, moving between extra-mathematical and intra-mathematical contexts.

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