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| **Learning Target(s):**   1. Use functions to model relationships between quantities.  * I can explain the parameters of a linear function based on the context of a problem. * I can determine the parameters of a linear function. * I can determine the x-intercept of a linear function. | | | **Pacing:**   * 2 Days | |
| **In previous grades, students have:**   * In 7th Grade students develop an understanding of rational numbers and work with expressions and linear equations. * In 6th Grade students write interpret and use expressions and equations. * In 4th Grade students develop an understanding of fluency with multi-digit multiplication and dividing to find quotients with multi-digit dividends. * In 2nd Grade students build fluency with addition and subtraction. | | | | |
| **Success Criteria** (to be able to do this, students must learn and understand…):   * Understand how to solve a problem using the order of operations. * Understand the distinction between a relation and a function. * Understand how to solve a problem involving rates of change. * Understand how to create, compare, and evaluate different representations of functions. | | **Performance Task** (students will show they can do this by):   * Solving a problem involving rates of change. * Make distinctions between a relation and a function. * Create, compare, and evaluate different representations of functions. | | |
| **Suggested Activity:**  The purpose of this task is to further define function and to solidify key features of functions given different representations. Features include:   * Domain and range. * Where the function is increasing or decreasing. * X and Y intercepts. * Rates of change (informal). * Introduce function notation for equations.   Have students work for a few minutes individually to get started. Then, pair them up to support each other and engage in mathematical conversation. Allow pairs to share their successes; also, have discussions as a class group.  Activity Link: <https://www.uen.org/core/math/downloads/sec1_floating_down_river.pdf>  **Re-teaching:**  Student Focus Questions and Thinking Guide:   * Can you organize your work in a table? * Would someone unfamiliar with your work easily understand your solution? * Have you explained how you arrived at your answer? * How can you check that your answer is correct?   *Try not to make suggestions that move students towards a particular approach to this task. Instead, ask questions that help students to clarify their thinking and encourage checking:*  **Extension:**   * What was your strategy for solving this problem? * What do you know now that you did not know before? * Would you continue to use this strategy on similar problem types? * Are there any other approaches you could try?   Peer Reflection/Assessment:   * If you are visiting another group, read through their work. If their work makes sense, explain it in your own words. If the work does not make sense to you, ask for clarification. * If you are staying at your desk, either carefully listen to the explanation and check it matches your own thinking or answer the visiting students’ questions. * You may then want to consider improving your idea/position. | | | | |
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| **EL Accommodations:**   * Students must interpret sentences and relate them to equivalent symbolic expressions. * Students explain their reasoning to other students and listen carefully to the explanations of others. * Additionally, they must attend to any similarities or differences between methods. * Peer support. * Discourse strategies. * Reading and writing prompts. | | | | |
| **Vocabulary:**   * Rate of Change * Linear * Expression * Equation * Domain * Range * Function * Relation | **Aligned Resources:**   * **Lesson PDF:**   [Lazy River Activity](Alg%208th%20U2A9%20(8th%20Supplemntals).pdf)   * **Lesson Website:**   (*Above lesson modified from the site linked below to exclude items not in the 8th grade range*)  <https://www.uen.org/core/math/downloads/sec1_floating_down_river.pdf> | | | **Blooms:** Analyze  **DOK:** 3  **21st Century Skills:**  Learning and Innovation Skills:   * Creativity and Innovation * Critical Thinking and Problem Solving * Communication * Collaboration   Information, Media and Technology Skills:   * Information Literacy * Media Literacy * Technology Skills |
| **Test Item Exemplars:**  Open Exploration Activity (Ongoing Formative Assessment) | | | | |