



**Summer Math Expectations for Rising 3rd Grade
Summer of 2018**

Our expectations for rising third graders is fluency in addition and subtraction facts through the sum of 18.

Throughout the school year, students have learned and practiced essential math facts as a regular part of their math instruction. We would like students to gain competence with these math facts so they will return to school in August ready to work with mathematical concepts that go beyond the basic facts. To this end, students need to be fluent with the specific facts for their grade level.

Fluency is defined by Fosnot and Dolk (2001) as “knowing how a number can be composed and decomposed and using that information to be flexible and efficient with solving problems.” While it is useful to hold some math facts in memory, it is important to learn them in different mathematical situations. Jo Boaler, in her book *Mathematical Mindsets*, discusses the development of fluency as developing number sense and focusing on big ideas and the connections between them. As we take the focus off the time it takes students to complete a fact quiz, it allows them to think more deeply and carefully about mathematics. She says, “Students should learn methods, such as adding and multiplying, not as ends in themselves but as part of a conceptual understanding of numbers, sums, and products and how they relate to each other.”

While students still need to have efficient recall of math facts, we are learning that they can best assimilate these facts through the use of numbers in a variety of ways and in different situations. So, this summer, we are hoping you can expose your children to a variety of math experiences. Whatever you do and wherever you go, look for opportunities to talk about math. Look for problems to solve and interesting things to investigate.

We have posted in the Important Files section of the Parent Portal on the Porter-Gaud website (click on Lower School and then Summer Work) some fun ideas that will allow your children to build their understanding of addition, subtraction, multiplication, and division. We have also included a downloadable sheet that can be used as a quiz; we encourage you to use them periodically throughout the summer so your child can analyze the progress he/she is making with his/her fluency with these facts. Please consider having your child time himself/herself and graph the time it takes to complete the quiz and/or the number he/she gets correct. I hope that you will encourage your child to see these “self checks” as a tool with which they can assess how the new strategies they are learning are adding to their fluency with these facts.

Throughout the school year, we will continue to build this fluency in our number talks, classroom activities, problem solving experiences, and fact quizzes. We will allow students to monitor their own completion times as a way to assess their own progress. We appreciate all you can do to build our young mathematicians.