

Curriculum Highlights At Squantum School May 2010



George and Wen play a math game.

Math Buddies: a Cross-Grade Learning Activity

Cross-age math activities provide academic, social and emotional benefits to older and younger students. Math Buddies is an activity in which students are partnered across grades in order to engage in learning tasks. This activity is an action step that ties into our School Improvement Plan, whose goal is to improve student learning and achievement.

First graders are matched up with fourth graders and second graders are matched up with fifth graders. Students meet once every two weeks for 30-60 minute sessions which incorporate a hands-on component. Activities include games using dice or cards in order to do addition, subtraction and place value, work with clocks and money, and websites that correspond to specific lessons.

Academic Benefits

Academic benefits include reinforcement of and exploration of concepts for both partners. The one-on-one nature of Math Buddies allows older students to provide appropriate levels of support and encouragement as younger students apply skills. Younger students benefit from individualized attention and monitoring. Often, the older student uses language that the younger child understands clearly, and the younger student may feel more comfortable asking questions. Partner work maximizes active participation and creates experiences that are better adapted to individual needs. First grade teacher Mrs. Cordero believes that “students are getting one-to-one attention and it means that they’re engaged the whole time.”

Academic benefits exist for tutors as well. Working on previous material challenges students to deepen their understanding of concepts as they explain them. For example, work with money provides younger students with practice at double-digit addition and subtraction while providing older students with reinforcement in decimals, multiples, and mental math skills. A fourth grader notes that, “when I help them, I can go back to learning old work, too.”



Michael and Benjamin explore plane shapes.

Social Benefits



Erin and Isabella work with place value.

In addition to strengthening academics, student partnerships strengthen interpersonal relations and increase confidence. Tutoring may build confidence and enjoyment in students who struggle in or who dislike. Students are always excited to do Math Buddies; fourth grade teacher Mrs. Walsh says that, “I do it because my kids love it.”

Math Buddies provides younger students with role models, and older students develop sincere appreciation for younger students. Many mentioned how they liked seeing their buddies progress in math. Appreciation encourages a community of caring and of responsibility, including a shared interest in the intellectual task at hand. Older students commented that their younger partners “are very smart and always want to learn more,” “they can do any problem without question” and “they are so smart and nice.” One fifth grader stated that, “they know how to say numbers in the millions place. That is amazing for second graders.” Another positive comment was that, “I learned that second graders can be just as smart as fifth graders.” Older students described their partners as funny, interesting and nice.

They expressed admiration at how smart their younger partners were at math. They recognized that they needed to practice patience because “with younger children it takes some time for them to take everything in and to understand” but that “they are up to the challenge.” One student summed it up this way: “teaching younger kids new skills makes them smarter and me happy.”

Tips that older students had for other tutors included making friends with their younger buddies by asking them question and to “let them trust you so they will learn more.” A fourth grader believes that a younger child is more likely to learn “if you actually believe that your math buddy can do it.” A fifth grader found that “It refreshed my memory about solid shapes and another “learned news strategies for math.”

Older students enjoy being in the role of teacher because they can “see how they are improving” and because “it feels good to be in charge.” Another fifth grader noted that he learned new ways of solving problems by watching his math buddy, and that “the second graders can be a teacher to the teacher.”



Robert quizzes John on plane shapes.