

# Model Curriculum Units: One School's Experience



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*Sarah Kent, Elementary Math Coach*

## Kelly Elementary School, Chelsea School District

### *Tryout Overview*

*Exploring Fractions, Grade 3*

The focus of the unit is developing an understanding of fractions, especially fractions with numerators of one (unit fractions). The unit uses visual fraction models to represent fractions on a number line and word problems that connect fractions to real world applications.

### *Summary*

Understanding by Design (UbD) has been a strategic focus for the Chelsea School District. There has been a concentrated effort to create Professional Learning Communities within schools to build a shared understanding about UbD and develop units aligned to the UbD framework. With the foundation in place, Kelly Elementary School realized that the model curriculum unit tryout was a great opportunity to strengthen their current practices using UbD while providing high quality instruction to their students in mathematics.

Before the unit began, Sarah Kent, Kelly Elementary School's Math Coach, provided professional development for all third grade teachers during their PLC time. She knew that, in order for the unit to be successful, teachers needed to build a shared understanding about the standards being addressed as well as the instructional strategies required to build the conceptual knowledge of their students. ***Breaking down the unit detail and looking at the standards provided a great platform for teachers to discuss the true meaning of the curriculum standards*** and student expectations' for learning. In addition, teachers experimented with using Cuisenaire rods, which had not been used for instruction for quite a while, to investigate how this math manipulative could support student learning. Teachers

quickly became reacquainted with the manipulative and increased their comfort level before they began teaching the unit.

In order to meet the needs of the teachers as they moved through the unit, teachers met weekly with Kent to discuss the unit and provide feedback. This provided opportunities for teachers to discuss their experiences, describe effective instructional strategies, and share successes. The PLC meeting time was a great forum for debates and dialogue regarding all areas of the unit. There was consensus that the application to real world learning was strongly embedded in the unit, which enabled students to develop deep conceptual understandings far greater than what the teachers had seen in the past. ***Traditionally, students have struggled with fractions and the fact that the unit was not just about pizza was huge!***

The Curriculum Embedded Performance Assessment (CEPA) tasks were strong and fit well into the unit. One task shifted both teacher and student thinking by providing multiple ways to interpret the problem, which led to different answers. This generated lots of dialogue from teachers and changed their thinking as to how students may interpret problems. The task also included an interdisciplinary approach by linking to a literary piece providing context for the math assessment. The CEPA was well received, as teachers found it a great way to assess students' learning.

A few weeks after the conclusion of the unit, teachers met to provide feedback regarding each lesson as well as a general consensus regarding the effectiveness of the entire unit. Overall, the feedback from teachers was extremely positive. As they looked at the big picture, it was clear that, because of the UbD design, the conceptual understanding gained by students was much stronger than in years past. Teachers appreciated the number of visuals contained within the unit to support students' learning. The unit provided a vehicle for the use of manipulatives that had gotten lost as teachers focused more on the discrete skills of the concept rather than building the conceptual understanding of the concept. ***By building their conceptual knowledge, students were able to apply their new learning to other math units in ways that had not been previously observed.***

## ***Recommendations***

### ***What changes, if any, will you make to the unit design to better align with your school's needs?***

As teachers participated in the model curriculum unit tryout, Kent asked teachers to deliver the unit with fidelity. She believed that it would be difficult to assess the quality of the unit if teachers made changes, which may have impacted the enduring understandings and key concepts of the unit. However, there were modifications that were made, but they were not conceptual, but more at a surface level. In general, the biggest change was in the amount of time needed to deliver the unit. The unit was designed to be delivered within a two week time frame, but the teachers stretched the unit out to three weeks to ensure students grasped the concepts and enduring understandings. Next year, Kent believes that the unit delivery will be more in-line with the two week time-frame. This is based on teachers having a stronger understanding of the unit after taking part in provided professional development and trying out the lessons with their students.

### ***What recommendations would you give to other schools as they begin to implement the model curriculum units in their schools and classrooms?***

Building professional learning through the PLC model was very effective when implementation began. The unit was powerful, focusing on a critical area where teachers were in need of additional support. This created a lot of teacher buy-in. Therefore, it was important to spend time before teaching the unit to ensure teachers felt supported and comfortable with the unit. Time was dedicated to breaking down the unit and analyzing all the components of the UbD design. Since the Chelsea School District supports UbD, teachers had an initial understanding of the unit design. However, teachers deepened their understanding about the UbD components and how they fit together through this experience. It provided them with an understanding that went beyond the district's training. By building the teacher's confidence and allowing them time to get comfortable with not only the math concepts, but also the UbD design, they were better prepared to provide high quality instruction. Now everyone at Kelly Elementary School is looking forward to the next model curriculum unit.

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***Additional Model Curriculum Units***

ESE will be sharing approximately **90 model curriculum units** for K-12 teachers in ELA, mathematics, history and social science, and science, technology, and engineering content areas. These units will be made available to all districts throughout the Commonwealth for the 2013-2014 school year. For additional information about upcoming releases visit: