

Statement of Purpose

The foundational knowledge of students begins in infancy. As elementary school teachers, we are tasked with building a students' foundational knowledge for the rest of their lives. Mathematical practices begin with children learning to recognize patterns, shapes, attributes of items, simple counting and number sense. Teachers then build those foundations into solid mathematical ideas and skills. Pedagogy has taught us that students thrive on scaffolding and a gradual apprehension of a concept. In this unit of study, fourth grade fractions and mixed numbers, that is precisely what is being taught. Students have already learned and have a grasp on whole numbers, what they represent and how to add, subtract, multiply and divide them. Students also have learned to apply their mathematical strategies to real world situations. (Frye, Baroody, Burchinal, Carver, Jordan, & McDowell, J., 2013)

Therefore, in this unit, students will gain exposure to fractions, which are by definition, are parts of a whole. They will begin to explore fractions the same developmentally appropriate way they began exploring whole numbers, first with addition and subtraction. Next, after mastering addition and subtraction of fractions students will be able to multiply and divide fractions. These practices are presented in this manner because children learn that multiplication is repeated addition and that division is simply repeated subtraction. Next, students will begin to layer their concepts of whole numbers and begin to apply them to fractions. To be able to convert fractions into simplest form or to be able to create an equivalent fraction, students have to use their multiplication and division knowledge. (Cavendish, 2014)

Finally, students will be able to develop the understanding of mixed numbers and improper fractions. This is the final step in students being able to use multiplication, division

subtraction, addition and their knowledge of whole numbers and fractions all in combination to create and use mixed numbers and improper fractions.

After mastering this unit, students will be able to move on developmentally to the next grade level of study. Not only will they now have a new base for the next level of concepts, they will also have the ability to work in the real world and apply their new concepts to any situation necessary.

References

Chiarelott, L. (2006). *Curriculum in Context* (pp. 75-81). Belmont, CA: Wadsworth.

Frye, D., Baroody, A. J., Burchinal, M., Carver, S. M., Jordan, N. C., McDowell, J., & National Center for Education Evaluation and Regional Assistance, (. (ED). (2013). *Teaching Math to Young Children. Educator's Practice Guide. What Works Clearinghouse. NCEE 2014-4005.*
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Cavendish, M. (2014). *Math in Focus Singapore Math*. Marshall Cavendish Education.