

# Unit 4 Research



Money concepts should be taught at home and in kindergarten because the learned knowledge and skills are not only relevant, but practiced in daily life. According to Mary Brenner at the University of CA, Santa Barbara, "One of the many prescriptions for making mathematics more meaningful to children is to include mathematical tasks that relate to children's everyday lives."<sup>(1)</sup>

The introduction of coins in kindergarten should begin with activities designed to acquaint children with the identification and value of coins, using real money. The learning objectives are recognizing coins, knowing the value of the penny, nickel and dime, simple addition of coins, and problem solving using money. Counting, addition, and subtraction in terms of money make it easier for many children to gain math confidence.

Children learn to identify coins and their values by experiencing numerous hands-on activities. Coins are introduced one at a time as children participate in various activities to create understanding of that coin before another coin is introduced.<sup>(2)</sup> They then work on the questions, "How many pennies (or cents) are in a nickel? A dime?" Children become aware of the differences in color, shape, and feel as well as value. In Starfall kindergarten classrooms, children learn about coins through classroom games, rhymes, and Learning Center activities. They pretend to buy items using actual coins, play "Toss the Coin" to learn about head and tails, identify presidents on coins, and play "Coin Town," "Coin Concentration," and various coin games on Starfall.com. Children learn the value of a set of coins, create a set of coins with a given value, and compare the values of sets of coins.<sup>(3)</sup> Children demonstrate their understanding in a variety of ways. These types of activities enable students to become proficient problem solvers.<sup>(4)</sup>

Some kindergarten children struggle to advance from the concrete to the abstract. It is important to reinforce these developmental concepts throughout the year with coin games and activities that reinforce their learning, such as practice in solving problems involving addition and subtraction using coins, showing different combinations of coins that equal the same value, and solving problems using combinations of coins.

(1) Brenner, Mary. Meaning and Money. *Educational Studies in Mathematics*, July, 1998, Vol. 36, Issue 2, pp 123-155.

(2) Martin-Kniep, Gisselle O. *Becoming a Better Teacher: Eight Innovations That Work*, Alexandria, VA: Association for Supervision and Curriculum Development, 2000.

(3) Randell L. Drum and Wesley G Petty, Jr. Teaching Children Mathematics, Vol. 5, No. 5, (January 1999), pp 265-268.

(4) National Council of Teachers of Mathematics. (2000). *Principles and standards for school mathematics*. Reston, VA.

# Unit 4 Frequently Asked Questions

## ***Why does the Starfall Math curriculum include money even though many state standards do not?***

Using money is a real-life skill that requires math knowledge. Kindergarten children do not become experts at using money, nor do they need to for tests or state standards, but they like coins, in part because they are “real” objects.

Coins make excellent counters even if children don't recognize their values, and they provide a perfect opportunity to practice “counting on.” When children see a nickel and two pennies, they learn it isn't necessary to count 1-2-3-4-5 and then add 2 more. Instead they learn to recognize the value of the nickel as five, thus starting at five and counting on two more, 5,6,7.

Including money in the curriculum also provides children with the opportunity to practice addition and subtraction skills by using coins as they play store and pretend to “purchase” items.

Kindergarten children invariably express interest in handling and distinguishing coins. Even learning their values proves interesting. While the children aren't expected to be able to correctly count change, they do take pride in knowing the coins' names and their values.

Kindergarten children who have rich and varied math experiences have been found to perform at higher levels in later years. Previewing coins and their values will help children become more successful later on, when money is more formally introduced.