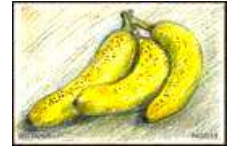


# The Land of Treble


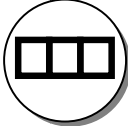
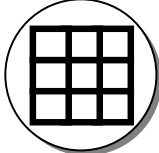
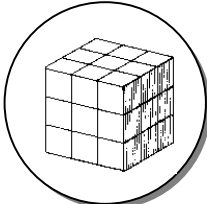


Today, you are going to imagine visiting the Land of Treble. Everything you see in the Land of Treble is made of three parts. The people have three arms, three legs, three eyes, three toes, and three noses. Their cars have three wheels, their flowers blossom in sets of three, and their trees grow in groups of three.



Your first stop in Treble is the Trigon Pet Store. There is a wonderful-three headed Slurp for sale and it costs one trickle. Since you are not sure how much a trickle is worth, you visit the bank to learn more about the money system used in town. At the bank, you learn that the coins have strange names – gickle, bickle, rickle, and trickle and that their associated values are as follows:

## *The Land of Treble Money System*

Gickle		
Bickle		1 Bickle = 3 Gickles
Rickle		1 Rickle = 3 Bickles = 9 Gickles
Trickle		1 Trickle = 3 Rickles = 9 Bickles = 27 Gickles

A bank teller has agreed to explain to you how they trade money in this system. First, she explains,

Since our gickles, bickles, rickles, and trickles are somewhat heavy, we try to carry as few of them at a time as possible. Thus, whenever we have three or more of any coin, we trade up to the next highest coin. For example, if a customer has four gickles, they would trade these for 1 bickle and 1 gickle.

One of the customers in the bank wants to help you master their money system, so he suggests that you play a game with a partner. You will alternate turns. On your turn, roll a single die. This tells you how many gickles you will receive. Once you collect those gickles, remember to trade up as needed so that you always have *as few coins as possible*. As your partner takes his/her turn, check that their trades are done correctly. The first player to get a trickle can purchase the Slurp and wins the game.

**Play the game at least 3 times with a partner.** Then, answer the questions on the reverse page. Be ready to share your responses to #4 and #5 with the whole class.

1. Which has a greater value, one rickle or two bickles? Explain.
2. A common belief of youngsters learning a money system is to think “the more coins you have, the richer you are.” What would you say to someone with this idea?
3. Dan has just rolled a six on the die and he already has two bickles on his mat. What does he still need to add to his mat to get a trickle? Explain your answer.
4. The Land of Treble is a base-three numeration system. Compare the base-three system and the base-ten system. How are they alike and how are they different?
5. The Egyptian system is a base-ten system and the Babylonian system is a base-sixty system. Compare these two systems to the Land of Treble system and our base-ten system. How are all four of these numeration systems alike and how are they different?
6. If time remains, play the game again but this time the number on the die tells you how many gickles to subtract. Each player begins the game with one trickle.