## Marble Soup

Four year-old Jesse invented a game where he mixed various types of marbles to make different kinds of soup that I was supposed to "taste" and comment on. The first time he invented this game, I noted an opportunity for ratio, though I didn't weave it well enough into the story to catch his interest; i.e. 1 goldfish marble +1 steelie +1 earth marble $=2$ goldfish +2 steelies +2 marbles, so I noted that "Hey! This soup tastes just like the other one!" I think the reason this wasn't particularly
 interesting was that he didn't see what I was doing; I started with an idea that was too difficult.

Jesse asked to play this game again a few days later. This time, I played with a fuzzier concept of ratio in mind. If he used more goldfish than steelies, I said, "Mmm! Goldfish Soup with a hint of Steelie!" If he used more steelies, I said, "Mmm! Steelie Soup with a hint of Goldfish!" Equal amounts resulted in "Goldfish-Steelie Soup." He also had a single marble that he did or did not include: It was cayenne pepper, which would make the mix "spicy." He liked mixing the soups and watching my reaction; I was the one with the math agenda. He really enjoyed this game.


