

# How Much Does Money Cost?

**Math concepts:** Multiplication, division, ratio & proportion, decimals, money

## The Question

How much does it cost to make a dollar using coins?

## The Launch

The cost of making a penny, a dollar, or a vast amount of money is the kind of thing that catches most kids' interest. In this lesson, kids can engage with the question and try to solve it right away.

Start by discussing what kids expect it might cost to make a quarter. (After all, there's metals in there, perfectly crafted into the right shape!) Take some guesses, then tell them (11.1 cents). After that, repeat for a dime, a nickel, and a penny. You can discuss what makes the price different (cost of materials, size of coin) as well as the oddness of having two coins that cost more to make than they are actually worth. At this point in the discussion, kids may already have some pressing questions. The first question that comes up for me is:

*1. If you want to make \$1 out of coins, what is the cost of doing it with each coin? Which do you think will be most and least expensive (guess ahead of time). Which is most and least expensive?*

From there, there are a number of natural extensions. For convenience, I've listed some that occurred to me on the next page. Don't be afraid to change up the questions if the class discussion motivates it. Come together at the end to discuss how answers, and what they mean. A great culminating question is: how much does all our money cost to make?

## What we love about it

Kids love money, so they'll be interested right away. This is a lesson that connects naturally to the real world while exploring tons of skills in context. It also differentiates beautifully, since some kids can work on the first problem, while others can get to the tougher, larger cases.

A nice extension is at the Megapenny Project: <http://www.kokogiak.com/megapenny/>



# How Much Does Money Cost?

Coin	Cost of Production
Penny	2.5 cents per coin
Nickel	11 cents per coin
Dime	6 cents per coin
Quarter	11 cents per coin

*What is most it would cost of \$1 with coins? What is the least it would cost? Describe what coins you could use to make a dollar, and how much each dollar would cost to make.*



Note	Cost of Production
\$1 and \$2	5.4 cents per note
\$5	9.8 cents per note
\$10	9.0 cents per note
\$20 and \$50	9.8 cents per note
\$100	12.7 cents per note

According to the Federal Reserve Website, there was approximately \$1.2 trillion in circulation as of October 3, 2013, of which \$1.16 trillion was in Federal Reserve notes (i.e., bills, not coins. This means the remaining 0.04 trillion is in coins.).

From this, approximate how much all American money currently in circulation cost to make.

