

Handout: Exploring the Scaling of Problems

Consider re-scaled versions of the Three-Coin Problem with grade-level colleagues. As you consider the problems, discuss the extent to which the following are the same as the Three-Coin Problem:

- The mathematical ideas (concepts or procedures)
- The representations used
- The contextualization of the problem
- The reasoning and strategies that students are likely to use
- The learning opportunities and goal

Select one of the versions, or modify one, so that you could use it with your students.

Kindergarten:

Use Xs and Os to make 7 in different ways.

(Note: It is important to make clear during the set-up that the amount of Xs and Os is what determines if an answer is different, not the position of Xs and Os).

Grades 1-2:

I have pennies and nickels in my pocket. If I pull out 2 coins, what amounts of money might I have?

Grades 3-5:

I have pennies, nickels, and quarters in my pocket. If I pull out 2 coins, what amounts of money might I have?