



CGI Math
Teacher Learning Center

Here are some problems that I use with my first graders. Many of my students enter first grade not completely proficient with some of the Kindergarten Math Standards. On the other hand, a few of my students enter first grade having already mastered some of the First Grade Math Standards. Differentiation happens naturally when I use these problems with my students because students choose strategies that are appropriate to their level of understanding. At the beginning of the year many, students will Direct Model with ones to solve all of these problems. That's fine with me because I can access their counting skills within the context of problem solving. As the year goes on, students grow into Counting Strategies, Direct Modeling with Tens, Derived Facts and Invented Algorithms. Some students might solve problems quicker than others so I usually have a different number set ready for these students so that they can solve a second problem while their classmates finish the first problem. I want my students who work quickly to be engaged with math ideas throughout the entire math lesson rather than pull out a book and read.

I adapt these problems each year to match my students' interests. I love animals and my students typically are very interested in my pets and their classmates' pets. These problems are all about animals but they could easily be adapted if your students have other interests.

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Problems with 10 in a group – Multiplication and Measurement Division

Even though Multiplication and Division problems aren't part of the first grade standards, I pose many of these problems to my students to develop their base ten understanding. This really helps them achieve the challenging second grade base ten standards when they enter second grade.

Each of Tylesha's dogs gets 10 dog treats. Tylesha has 4 dogs. How many dog treats would her dogs get altogether?

For students who finish quickly, what if Tylesha had 12 dogs?

I have 46 dollars and I want to use this money to buy as many boxes of hamster food as I can. If hamster food costs 10 dollars a box, how many boxes of hamster food could I buy?

For students who finish quickly, what if I had 110 dollars?

Monkeys have 10 toes. How many toes would 6 monkeys have?

For students who finish quickly, how many toes for 13 monkeys?

Every day the animal shelter uses 10 cans of cat food to feed their cats. If the animal shelter has 62 cans of cat food, how days would the cat food last?

For students who finish quickly, what if the animal shelter had 143 cans of cat food?

Addition and Subtraction Problems

As the year progresses, the problems with single digit numbers become problems to develop fluency with addition and subtraction facts.

(JRU) There were 4 dogs at the dog park. 8 more dogs came to the dog park. How many dogs are at the dog park now?

(9, 6) (12, 15) (35, 27)

(JCU) Tibby had 7 cat toys. Marcus made her some more cat toys and now she has 10 cat toys. How many cat toys did Marcus make for Tibby?

(13, 20) (35, 40) (85, 100)

(SRU) Ribsy had 12 dog treats. He ate 7 of them. How many dog treats does Ribsy have now?

(22, 7) (42, 7) (100, 7)

(SCU) There were 10 dogs at the dog park. It started to rain and some dogs went home. There are now only 4 dogs at the dog park. How many dogs went home?

(15, 3) (25, 5) (37, 19)

(Compare – DU) We saw 10 dogs and 5 cats at the animal shelter. How many more dogs did we see than cats?

(15, 27)

(35, 52)

(PPW-WU) We saw 10 dogs and 5 cats at the animal shelter. How many pets did we see at the animal shelter? (*we only saw dogs and cats during our visit*)

(15, 27)

(35, 52)

Equal Sharing Problems

Even though there aren't fraction standards for first grade, I pose Equal Sharing problems to my students to prepare them for the challenging fraction standards in third, fourth and fifth grades. Typically, my students show their solutions as a picture which fine with me. Sometimes they will use the word to correctly describe a portion of an object.

Tyrone's mom said that he and his brother could share 3 cookies if they shared them so that each person got the same amount. How much cookie should each boy get?

Vanessa and her sister want to share 5 little brownies so that each girl gets the same amount. How much brownie should each girl get?