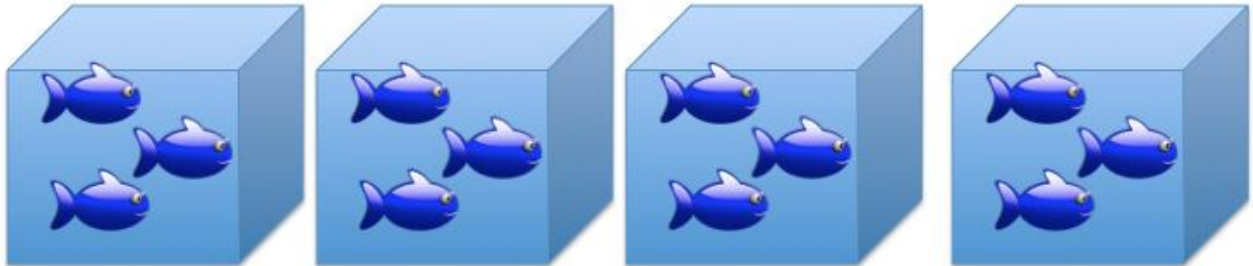


Rigor

Task Handout, Grade 3

“A social justice priority in mathematics education is to openly challenge deficit thinking and the institutional tools and practices that perpetuate static views about children and their mathematics competencies. Eliminating the deficit discourse by focusing on learning rather than labels is a key step toward a more just and equitable mathematics education.” –*National Council of Supervisors of Mathematics and TODOS: Mathematics for All*

Conceptual Understanding Task #1



Suppose there are 4 tanks and 3 fish in each tank. The total number of fish in this situation can be expressed as $4 \times 3 = 12$.

- Describe what is meant in this situation by $12 \div 3 = 4$
- Describe what is meant in this situation by $12 \div 4 = 3$

Conceptual Understanding Task #2

India is remodeling her bathroom. She plans to cover the bathroom floor with tiles that are each 1 square foot. Her bathroom is 5 feet wide and 8 feet long. India needs to stay within a strict budget and must purchase the exact number of tiles needed.

How many tiles should India buy? Use the space below to illustrate your answer.



Conceptual Understanding Task #3

Decide if the equations are true or false. Explain your answer.

- $4 \times 5 = 20$
- $34 = 7 \times 5$
- $3 \times 6 = 9 \times 2$
- $5 \times 8 = 10 \times 4$
- $6 \times 9 = 5 \times 10$
- $2 \times (3 \times 4) = 8 \times 3$
- $8 \times 6 = 7 \times 6 + 6$
- $4 \times (10 + 2) = 40 + 2$

Procedural Skills and Fluency Task #1

The game is played with one to four players.

To play, two decks of cards are needed: the "matching" cards and the "target" cards.

An array of matching cards, which have numbers on their faces, is dealt face down. There can be twelve to twenty-four cards in the array. A single target card is dealt face up.

A turn consists of a student flipping over matching cards one at a time, then trying to combine them to meet the criterion of the target card. The quantity of flipped cards and method of combination can be varied to utilize different skills and give variety to the game. Two possible versions of the game are described below. The student wins a point if they state a correct mathematical relationship between the matching cards and the target card.



In one version, a player reveals two cards each turn. The player wins a point if they can produce a product which matches the target card. Those who wish to keep track of points can do so by keeping target cards that are correctly "matched." Target cards can be single numbers but will more generally be descriptions of possible products. For example, the target card could be 24, in which case the player would be looking for pairs 6 and 4, 8 and 3, or 12 and 2. But the target could also say "30 to 35". In this case, if a player turns over a 4, for example, they would then need to try to find an 8, and to win the point they would need to say "8 times 4 is 32, which is between 30 and 35."

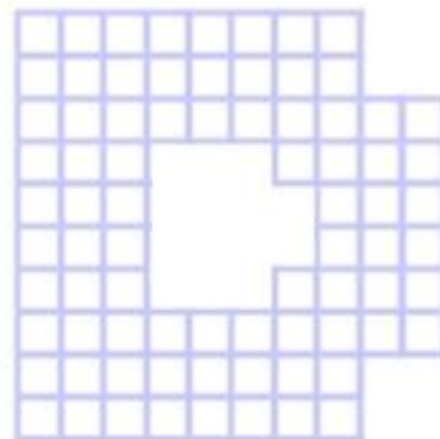
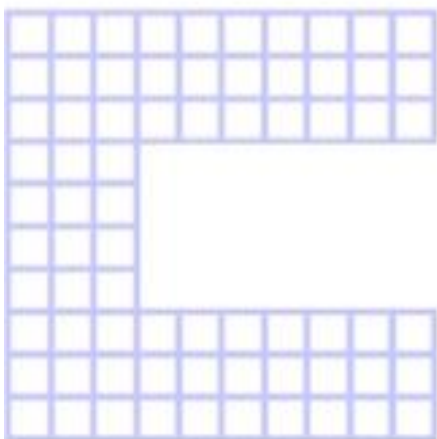
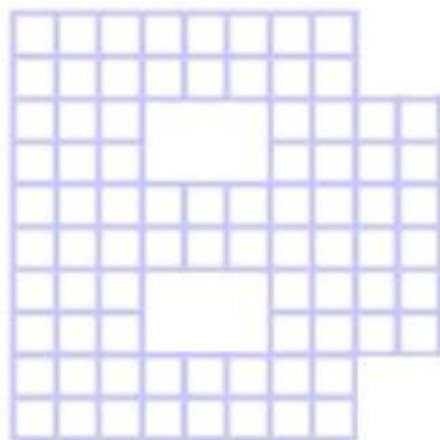
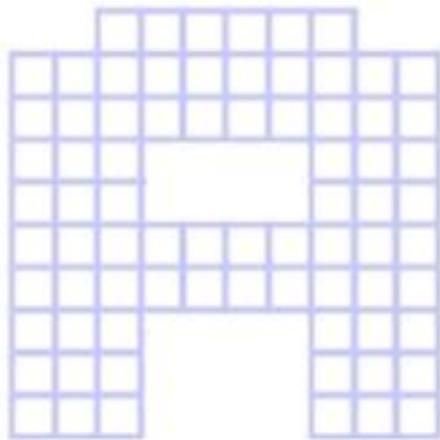
Procedural Skills and Fluency Task #2

$9 \times 2 = \underline{\quad}$	$\underline{\quad} \times 7 = 56$
$24 \div 6 = \underline{\quad}$	$5 \times 8 = \underline{\quad}$
$7 \times 6 = \underline{\quad}$	$27 \div 3 = \underline{\quad}$
$35 \div 5 = \underline{\quad}$	$64 \div 8 = \underline{\quad}$
$9 \times \underline{\quad} = 36$	$\underline{\quad} \times 7 = 21$
$2 \times 4 = \underline{\quad}$	$45 \div 5 = \underline{\quad}$
$3 \times 3 = \underline{\quad}$	$14 \div 7 = \underline{\quad}$
$36 \div 6 = \underline{\quad}$	$8 \times \underline{\quad} = 32$
$7 \times 7 = \underline{\quad}$	$5 \times \underline{\quad} = 25$
$\underline{\quad} \times 2 = 12$	$28 \div 4 = \underline{\quad}$

Source: Available from <http://achievethecore.org/page/861/multiplication-and-division-within-100-mini-assessment> accessed 16 June 2016. Licensed by Student Achievement Partners under CC0 1.0.

Procedural Skills and Fluency Task #3

Imagine that each square in the picture measures one centimeter on each side. What is the area of each letter? Try to work it out without counting each square individually.



Application Task #1

- a. Juanita spent \$9 on each of her 6 grandchildren at the fair. How much money did she spend?
- b. Nita bought some games for her grandchildren for \$8 each. If she spent a total of \$48, how many games did Nita buy?
- c. Helen spent an equal amount of money on each of her 7 grandchildren at the fair. If she spent a total of \$42, how much did each grandchild get?

Application Task #2

Masha had 120 stamps. First, she gave her sister half of the stamps and then she used three to mail letters. How many stamps does Masha have left?

Application Task #3

- a. It usually takes Dajuana 45 minutes to do her homework. If she starts her homework at 5:30 PM, what time will she finish?
- b. One day Dajuana started her homework at 6:45 PM and finished her homework at 7:20 PM. How long did Dajuana spend on her homework?
- c. Another day, Dajuana finished her homework at 5:05 PM after spending 40 minutes on her homework. What time did Dajuana start her homework?