

Rigor

Task Handout, Grade 2

“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

Task

Lamar and Siri had some base-ten blocks.

Lamar said, "I can make 124 using 1 hundred, 2 tens, and 4 ones."

Siri said, "I can make 124 using 124 ones."

- a. Can you find a way to make 124 using only tens and ones? Can you find a different way?
- b. Find as many ways as you can to make 124 using hundreds, tens, and ones. If you think you have found all the ways, explain how you know your list is complete.

Source: Available from <https://www.illustrativemathematics.org/content-standards/2/NBT/A/1/tasks/96>
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Conceptual Understanding Task #2

Task

Are these comparisons true or false?

- a. 2 hundreds + 3 ones > 5 tens + 9 ones
- b. 9 tens + 2 hundreds + 4 ones < 924
- c. 456 < 5 hundreds
- d. 4 hundreds + 9 ones + 3 ones < 491
- e. 3 hundreds + 4 tens < 7 tens + 9 ones + 2 hundred
- f. 7 ones + 3 hundreds > 370
- g. 2 hundreds + 7 tens = 3 hundreds – 2 tens

Source: Available from <https://www.illustrativemathematics.org/content-standards/2/NBT/A/4/tasks/111> accessed 26 May 2018. Licensed by Illustrative Mathematics under CC BY-NY-SA 4.0.

Procedural Skills and Fluency Task #1

Task

Materials

- Number cards labeled 1–10

0	1	2
3	4	5
6	7	8
9	10	

Actions

- Begin by playing the game as a whole class to demonstrate the rules and for students to illustrate the range of possible strategies.
- Have a student pick 5 number cards from the cards labeled 1 through 10. Then, have another student pick a “Target Number” between 10 through 20. Students must add and/or subtract 2 or more of the 5 number cards to arrive at the “target” number.
- As students present the different number combinations for the “target” number, write their expressions on the board and have them explain how they were able to mentally come up with the solution.
- As students explain their reasoning, name the strategies they used. For example, look for students making fives (e.g., $6 + 8 = 5 + 1 + 5 + 3 = 10 + 4 = 14$) and tens ($9 + 8 = 10 + 7$), and using known facts (e.g., $8 + 8$ is 16 so $8 + 7$ is one less than 16) to encourage flexible thinking about the relationship among the facts.
- When students understand how the game works, they can play in pairs, checking each other's solutions.

Source: Available from <https://tasks.illustrativemathematics.org/content-standards/2/OA/B/2/tasks/1396> accessed 13 May 2019. Licensed by Illustrative Mathematics under CC BY-NY-SA 4.0.

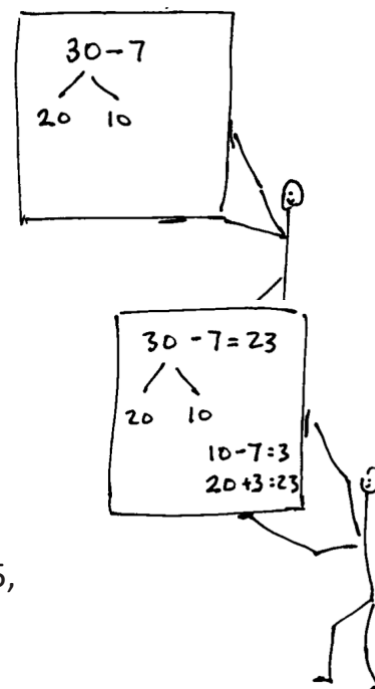
Procedural Skills and Fluency Task #2

Take Out Ten and Subtract (10 minutes)

Materials: (S) Personal white board

- T: Write $30 - 7$ on your boards.
T: Let's take out 10 from 30 using a number bond. Show the ten on the right.
T: Show me your board.
S: (Show number bond.)
T: Read the parts from left to right.
S: 20 and 10.
T: $10 - 7$ is ...?
S: 3.
T: $20 + 3$ is ...?
S: 23.
T: So, $30 - 7$ is ...?
S: 23.

Continue with the following possible sequence: $40 - 7$, $50 - 5$, $70 - 5$, $80 - 8$, $90 - 8$.



Source: EngageNY.org of the New York State Education Department. Grade 2 Mathematics, Module 2, Topic B, Lesson 7. Available from <https://www.engageny.org/resource/grade-2-mathematics-module-1-topic-b-lesson-7> accessed 13 May 2019. Licensed by EngageNY under CC BY-NC-SA 3.0.

Application Task #1

Problem 2: Solve a single-step word problem by drawing a tape diagram and using a number bond or the arrow way to solve.

Sam has 46 red apples and some green apples. He has a total of 88 apples. How many green apples does he have?

Circulate and support students by guiding them to the realization that the unknown is a missing part.

Source: EngageNY.org of the New York State Education Department. Grade 2 Mathematics, Module 4, Topic A, Lesson 5. Available from <https://www.engageny.org/resource/grade-2-mathematics-module-4-topic-lesson-5/file/93036> accessed 26 May 2018. Licensed by EngageNY under CC BY-NC-SA 3.0.

Application Task #2

Bill the frog jumped 7 centimeters less than Robin the frog. Bill jumped 55 centimeters. How far did Robin jump?

Source: EngageNY.org of the New York State Education Department. Grade 2 Mathematics, Module 2, Topic D, Lesson 8. Available from <https://www.engageny.org/resource/grade-2-mathematics-module-2-topic-d-lesson-8/file/92561> accessed 26 May 2018. Licensed by EngageNY under CC BY-NC-SA 3.0.