4th Grade Practice Items and Tasks

Weeks 1-5

Website:
http://alex.state.al.us/ccrs/node/314

4th Grade
Number and Operations in Base Ten

Set 1

Daily Practice Items
And
Answer Keys

NUMBER AND OPERATIONS IN BASE TEN: PRACTICE ITEMS OVERVIEW

Resources:

Attached you will find **practice items** for Number and Operations in Base Ten. These practice items are packaged so that you will have weekly items to use in your classroom as bell ringers or engagement items. Three items matching this domain have been provided for each day of this weekly set of practice items. No more than 15-20 minutes a day should be spent on these items in order for students to solve the problems and to debrief whole group.

The purpose of using these practice items daily is to be able to formatively assess student understanding, or the lack of it, in this domain. Being able to gather evidence of student learning and misconceptions in the moment will give you the flexibility to change your instruction to meet their needs. As the instructional decision-maker, you are able to adjust your methods for whole class or small groups to address student misconceptions and move them toward proficiency.

The practice items represent a variety of standards for Number and Operations in Base Ten. Three weeks of practice items have been selected for this domain. Because there are only three weeks, not every standard will be addressed.

The goal is for you to have a total of 10 weeks of practice items that represent the 5 domains in 4th grade. We would like for you to use these items for a 10 week period between the time you receive them and the end of January. If used daily for student practice, in accordance with our recommendations or tips, the outcome will be an improvement in ACT Aspire test scores.

At the end of each weekly packet, you will find an answer key for your use. Some items include possible responses that students might have on the constructed response items.

Separate resources available to you are **tasks** addressing each of the domains. These tasks and practice items are interchangeable. If your students, or a group of students, are ready for problems that are a bit more rigorous, feel free to use the tasks. These tasks require students to think about an efficient strategy to solve the problem, show their work and justify their reasoning. This is the ultimate goal for what we want students to be able to do.

Recommendations or Tips:

When administering the practice items, please take the time to have the students read through the daily items to see if they have any questions about vocabulary or what the problem is asking them to do. Taking the time to do these things now, will help assure that the students are familiar with mathematical vocabulary and different question types before the actual test.

Providing Feedback to Students:

Since the purpose of the test items is to get at student understanding, it is not enough just to give the practice items as bell ringers or engagement items. A key part of the process in advancing student thinking, is to debrief the practice items and provide specific feedback on the student's thinking and performance. The key to getting at student understanding and thinking is to always have them explain how they solved the problem. This can be done during the sharing out process by asking effective questions. It is difficult to make student

thinking and understanding visible by just giving **multiple choice** questions and determining whether their response is correct or incorrect. Asking questions similar to the ones below can help students verbalize the reasoning for their choice:

- To get the right answer, what concept do you have to be aware of?
- Why are the other 3 answers not correct?
- What strategy did you use to solve the problem? Why did you use that particular strategy?
- Is there another strategy that you could use to solve the problem?

The above questions can be used with **short response** and **constructed response** also. Other questions to consider when prompting students to verbalize or justify their thinking are:

Monitoring as students work:

- What is the problem asking you to find?
- How would/did you start the problem?
- What else do you need to do?

During debriefing:

- What did the problem ask you to do?
- What information do you see in the problem?
- What did you do <u>first</u> to solve this problem?
- Who else started this same way?
- What did you do next?
- Who started a different way?
- What are some strategies that you heard today that you would like to try when solving a similar problem in the future?

Answer Key:

The information above is intended to help teachers get at student understanding of the mathematical idea(s) in each problem. Also provided is an Answer Key for each set of items. The Answer Key provides more information on the expected student response for each item, as well as the standard being addressed. While it is important for students to get the answer right, it is equally important for them to understand how their thinking leads or does not lead to a correct solution. Incorrect solutions set the stage for teachable moments!!!!

Name _____ Date _____

Daily Practice - Number and Operations in Base 10 DAY 1

1. Add: 238
   +462

A) 600
B) 690
C) 700
D) 790

2. Kim wants to give 7 stickers to each of her 5 friends. To find out how many stickers she needs, she writes the number sentence 7 + 7 + 7 + 7 + 7 = ☐.

   Write a number sentence with multiplication that she could use to find the number of stickers she needs.

3. Divide: 1,512 ÷ 7
   Show your work.

   A. 0.00216

   B. 21.6

   C. 216

   D. 21,600

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2003 and 2013 Mathematics Assessments.

Name _____ Date_____

Daily Practice - Number and Operations in Base Ten DAY 2

Show your work:

1. $4 \times 50 \times 9 =$

   A. 180

   B. 360

   C. 1,800

   D. 3,600

2. Which of these operations will give the <u>smallest</u> answer?

   A. Subtract 1 from 1,000.

   B. Multiply 1,000 by 1.

   C. Divide 1,000 by 1.

   D. Divide 1,000 by 10.

HOW BUTTONS ARE SOLD

Type	Number of Buttons
Box of buttons	1,000 buttons
Package of buttons	100 buttons
Card of buttons	10 buttons
Single button	1 button

3. The art teacher bought buttons for a project.

   The teacher bought 1 box, 9 packages, 12 cards, and 5 single buttons.

   How many buttons did the teacher buy altogether?

   Answer: _____ buttons

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2013 Mathematics Assessment.

Name _____ Date_____

Daily Practice - Number and Operations in Base Ten DAY 3

Show your work:

1. Sam placed cookies on a cookie sheet to form 2 rows with 6 cookies in each row. Which of the following number sentences best describes this situation?

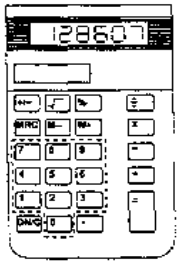
   A) 2 x 6 = ☐
   B) 2 + 6 = ☐
   C) 6 ÷ 2 = ☐
   D) 6 – 2 = ☐

2. Mark tried to add the numbers 489 and 263 on his calculator. What is the sum of these numbers?

   Answer:

   The display on Mark's calculator showed his answer to be 128607. Mark had pressed a wrong key when trying to add. Which wrong key did he press?

   Answer:



3. On the chart, circle all the numbers that have 4 as a factor. Explain why you chose the numbers you circled.

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1996, 2003, and 2007 Mathematics Assessments.

Name _____ Date_____

Daily Practice - Number and Operations in Base Ten DAY 4

Show your work:

1. At a picnic cider is served in cups. If 1 pint will fill 2 cups, how many cups can be filled from 8 pints of cider?

   A) 4
   B) 8
   C) 11
   D) 16

2. The band members have a goal to sell 625 candy bars. If they have sold 264 so far, how many more candy bars do they have to sell to reach their goal?

   Answer:

3. Elsa works at the library.
   She puts a total of 54 books onto 3 shelves.
   Elsa puts at least 16 books on each shelf.
   Complete the table to show one way Elsa could put the books on the shelves.

Shelf	Number of Books
1	
2	
3	
Total	54

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2003 and 2013 Mathematics Assessments.

Name _____ Date_____

Daily Practice - Number and Operations in Base Ten DAY 5

Show your work:

1. 4 x 0 x 5 x 9 =

   A) 0
   B) 36
   C) 45
   D) 180

2. The chorus members have a goal to sell 775 candy bars. If they have sold 428 so far, how many more candy bars do they have to sell to reach their goal?

   Answer:

3. Which expression has the <u>least</u> value?

   A. $2 + 7 + 0 + 4$

   B. $(2 \times 7) + 0 + 4$

   C. $2 + (7 \times 0) + 4$

   D. $2 \times 7 \times 0 \times 4$

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2003 and 2013 Mathematics Assessments.

Number and Operations in Base Ten ANSWER KEY DAY 1

Standard #9

1. C.

Standard #10 (Foundational Standard: 3rd Grade #1)

2. **Solution:**

$5 \times 7 = \square$ (or other symbol, such as $5 \times 7 = ?$)
OR
$5 \times 7 = 35$
OR
$5 \times 7 = \_$
OR
5×7

Note: 5×7 can be written as 7×5. Other solutions are possible, such as $7 \times 2 + 7 \times 3$ or any equivalent expression, as long as it involves multiplication.

This was a modeling question in which the student was asked to write a number sentence about the problem rather than to solve the problem. To answer this question, the student needed to recognize the relationship between repeated addition and multiplication.

Standard #11

3. The correct answer is: C. 216

Number and Operations in Base Ten ANSWER KEY DAY 2

Standard #10 (Foundational Standard: 3rd Grade #12)

1. The correct answer is: C. 1,800

Standard #10

2. The correct answer is: D. Divide 1,000 by 10

Standard #9

3. The correct response is: 2,025 or 2025

Number and Operations in Base Ten ANSWER KEY DAY 3

Standard #10

1. The correct answer is: A

Standard #9

2. The correct answer is: 752
   In the first part of the question a student needed to know that the meaning of the word "sum"is the result of adding numbers. The sum of the two numbers is 752. The second part of the question focused on aspects of number sense, specifically on magnitude of numbers. Students are expected to realize that a result in the hundred thousands would occur only when 489 and 263 are multiplied.

Standard #10

3. **Solution:**
   4, 8, 12

   All 3 of these numbers are divisible by 4. Or, 1 x 4 = 4, 2 x 4 = 8, 3 x 4 = 12

Number and Operations in Base Ten ANSWER KEY DAY 4

Standard #10 (also MD Standard #20)

1. D.

Standard #9

2. The correct answer is: 361

   In this question the student needed to apply subtraction to solve a word problem.

Standard #9

3. Possible correct responses:

Shelf	Number of Books
1	22
2	16
3	16

OR

Shelf	Number of Books
1	18
2	18
3	18

OR

The following is a complete list of acceptable responses. The three numbers in each response may appear in any order.

16, 16, 22
16, 17, 21
16, 18, 20
16, 19, 19
17, 17, 20
17, 18, 19
18, 18, 18

Number and Operations in Base Ten ANSWER KEY DAY 5

Standard #10

1. The correct answer is: A.

Standard #9

2. The correct answer is: 347

In this question the student needed to apply subtraction to solve a word problem

Standards #9 and #10

3. The correct answer is: D. 2 x 7 x 0 x 4