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| **Standard** | **Items:** |
| **4.OA.03** -  Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. | **3.0**   1. **There are two classes going on a field trip. One class has 24 students and the other has 12 students. Each car holds 5 students.** 2. **Using rounding, how many cars you will need?** 3. **Exactly how many cars will they need?** 4. **Write the equation(s) you used to solve the problem using “x” as number of cars.** 5. **Check your answer using a different strategy.** |
| **2.0**  **1. Mrs. Lee’s class has 24 students and**  **Mr. Smith’s class has 18 students. Both classes**  **are going on a field trip. How many students**  **are going?**  **2. There are 23 students going on a field trip. Each**  **driver can take 5 students in their car. How many cars are needed?** |
| **4.NBT.05** -  Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. | 3.0  Solve using two different strategies:  **6a. 36 X 74 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **My first strategy**  **My second strategy**  **6b. 3,245 X 7 = \_\_\_\_\_\_\_\_\_\_\_\_**  **My first strategy**  **My second strategy** |
| 2.0  **Solve and show your work:**  **4. 63 X 47 = \_\_\_\_\_\_\_\_\_\_\_**  **My strategy:**  **5. 4,217 X 6 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **My strategy:**  6. Choose the correct answer to the following problem  23 X 46 =   1. 1137 2. 138 3. 818 4. 1058     20  40  3  6 |
| **4.NF.02** -  Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model. | 3.0  **10a. Write a comparison of and using >,=, or <**  **10b. Show or explain your answer from the problem above.**  **10c. Choose which of the following models have two fractions that refer to the same whole.**    ¾ > ⅔  A.  ¾ > ⅔  C.  ¾ > ⅔  B.  ¾ > ⅔  D. |
| 2.0  **7. Write a comparison of and using >,=, or <**  **8. Write a comparison of and using >,=, or <**  **9. Write a comparison of and using >,=, or <** |
| **4.NF.03** -  Understand a fraction a/b with a > 1 as a sum of fractions 1/b.   * a) Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. * b) Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8. * c) Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction. | 3.0  **14a.**  True/False Why?  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  True/False Why?  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **14b. Write 4/6 as a sum of the unit fraction and as a**  **combination of other fractions.**  **Draw a model to represent each of your equations.**  My models:  **14c. Solve 4 ⅖ + 3 ⅕ using more than one strategy.**  **Check using the inverse operation.** |
| 2.0    Can ½ a glass of water plus a ½ filled bathtub equal  a full bathtub? Why or why not?  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Write ⅝ as a sum of the unit fraction.  **11. Write ⅝ as a sum of a combination of fractions.**  **12. Draw a visual model to represent one of your**  **equations above.**  **13. Solve 2 2/8 - 1 ⅛ by replacing each mixed number with an improper fractions.**  **Check using the inverse operation.**  Solve 3 ¼ + 2 2/4 by using properties of operations.  Check using the inverse operation. |

Bathtub image source: [depositphotos.com](http://depositphotos.com/33205427/stock-illustration-bathtub-full-of-water.html)

Glass of water image source: [worldartsme.com](http://worldartsme.com/glass-of-water-black-and-white-clipart.html)

Bi Level Analysis Questions are designed to isolate the literacy’s impact on student performance.

Bi Level Analysis OA 4

1. \_\_\_\_\_ x 12 = 12 \_\_\_\_\_ x 1 = 12

\_\_\_\_\_ x 6 = 12 \_\_\_\_\_ x 2 = 12

\_\_\_\_\_ x 4 = 12 \_\_\_\_\_ x 3 = 12

2. List the factors of 9.

3. Johnny listed the factors of 8. He listed 1, 2, 4, 5, and 8. Are these all factors of 8?

4. To solve for *all* factors of any number, find all whole number multiplication sentences that equal that number. Johnny needs to find all the factors of 10 to organize his gel card insert protectors for his baseball card collection. Show all the factors that show this arrangement.

Bi Level Analysis NBT.05

1. 1,000 X 4 =

2. Jack had 3 puzzles. Each puzzle has 2,000 pieces. How many puzzle pieces in all.

3. The puppy puzzle has 1,000 pieces. The kitten puzzle has 1,000 pieces. The hot air balloon puzzle has 1,000 pieces. How many animal puzzle pieces are there altogether?

4. To solve for x, find the number of puzzle pieces. Over the school year Jack built 6 puzzles that have 1,000 pieces each. Jack built a 1,000-piece Model T puzzle over the summer. How many puzzle pieces did he put together during the school year?

**Bi Level Analysis**

1. Complete the pattern with the next 3 digits:

1, 3, 5, 7, 9, \_\_\_, \_\_\_, \_\_\_

1. Mrs. Smith is putting her class in boy, girl pattern. Show the pattern for her classroom, using B for Boy and G for Girl:

\_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_

1. Mr. Jones brought his dog to school. Later in the day he decided to put his class in the same pattern as Mrs. Smith. Show the pattern for her classroom, using B for Boy and G for Girl:

\_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_

1. Solve the pattern for arranging the colored pencils. Put the pencils in a red, white and blue order. The color of the pencils that need to be arranged are midnight blue, sky blue, cobalt blue, antique white, ivory white, egg-shell white, fire-engine red, brick red, and cardinal red. There is one lime green pencil.

\_\_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_\_,