

| multiplication equation with an unknown factor. [4.MD.3] |  |  |
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| 15. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. [4.NF.4] <br> [ Understand a fraction $a / b$ as a multiple of $1 / b$. For example, use a visual fraction model to represent $5 / 4$ as the product $5 \times(1 / 4)$, recording the conclusion by the equation $5 / 4=5 x(1 / 4)$. <br> [ Understand a multiple of $a / b$ as a multiple of $1 / b$, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express $3 x(2 / 5)$ as $6 x$ (1/5), recognizing this product as $6 / 5$. (In general, $n x(a / b)=(n x$ a)/b.) <br> [ Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat $3 / 8$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie? |  |  |
| 4. Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite. [4.OA.4] | , |  |
| 8. Use plf $499.32355 .19 .48-63.7(100)-250.1(\mathrm{i})-4.6(\mathrm{~s})$ ]TJ03 Tf | 00141.52 281.4 Tm | [(8.)-250.0(U)4.5(s)-2.3(e)-251.7(p)10.8(1)-4.6(f |


| denominator 100, and use this technique to add two fractions with respective <br> denominators 10 and 100. For example, express $3 / 10$ as $30 / 100$, and add $3 / 10+$ <br> $4 / 100=34 / 100 .[4 . N F .5]$ |  |  |  |
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| 10. Multiply a whole number of up to four digits by a one-digit whole <br> number, and multiply two two-digit numbers, using strategies based on place <br> value and the properties of operations. Illustrate and explain the calculation by <br> using equations, rectangular arrays, and/or area models. [4.NBT.5] |  |  |  |

