Module 6   Computational Fluency of Fractions
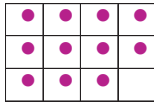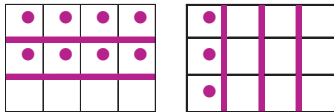**Lesson 2   Adding Fractions with Unlike Denominators**
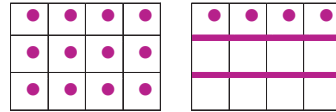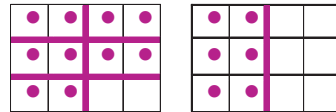
Model using 3 × 4 egg cartons.

1. $\dfrac{2}{3} + \dfrac{1}{4}$
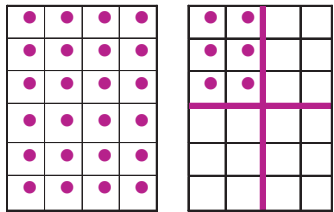
$\dfrac{11}{12}$
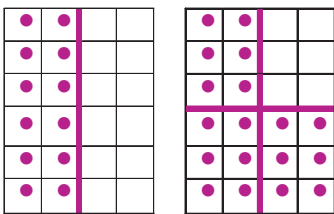
2. $\dfrac{5}{6} + \dfrac{1}{2}$

$1\dfrac{1}{3}$
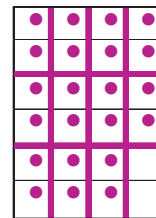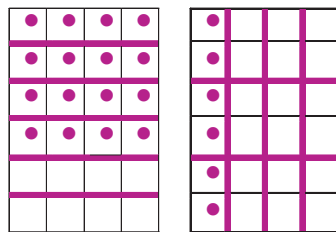
Model using 6 × 4 egg cartons.

3. $\dfrac{1}{2} + \dfrac{3}{4}$

$1\dfrac{1}{4}$

4. $\dfrac{4}{6} + \dfrac{3}{12}$

$\dfrac{11}{12}$

Evaluate the expression.

5. $\dfrac{3}{5}+\dfrac{2}{3}$

    $1\dfrac{4}{15}$

6. $\dfrac{1}{9}+\dfrac{5}{6}$

    $\dfrac{17}{18}$

7. $\dfrac{5}{12}+\dfrac{5}{6}$

    $1\dfrac{1}{4}$

8. $\dfrac{7}{10}+\dfrac{3}{4}$

    $1\dfrac{9}{20}$

9. $\dfrac{5}{10}+\dfrac{3}{6}$

    1

10. $\dfrac{4}{5}+\dfrac{4}{9}$

    $1\dfrac{11}{45}$

11. $\dfrac{1}{2}+\dfrac{3}{5}+\dfrac{1}{5}$

    $1\dfrac{3}{10}$

12. $\dfrac{1}{4}+\dfrac{1}{3}+\dfrac{1}{2}$

    $1\dfrac{1}{12}$

13. $\dfrac{14}{25}+\dfrac{7}{30}$

    $\dfrac{119}{150}$

14. Sebastian bought $\dfrac{2}{3}$ pound of walnuts and $\dfrac{7}{8}$ pound of peanuts. How many pounds of nuts did Sebastian buy in all?

    Sebastian bought $1\dfrac{13}{24}$ pounds of nuts.

15. Misty completed $\dfrac{3}{10}$ of her math homework in study hall and $\dfrac{2}{5}$ of her homework before dinner. She completed another $\dfrac{1}{8}$ of her math homework after dinner. How much of her math homework has Misty done so far?

    Misty has done $\dfrac{33}{40}$ of her math homework.

20

Module 6   Computational Fluency of Fractions
Lesson 2   Adding Fractions with Unlike Denominators

Journal

1. When adding fractions with unlike denominators, when will the least common denominator be one of the denominators of the addends? Give an example.

2. Maria said that when she has to find a common denominator of two fractions, she just uses the product of the two denominators in the problem. Sometimes it is the least common denominator, but sometimes it is not. Name one good thing and one bad thing about the way Maria finds common denominators.

3. Explain how to add $\dfrac{19}{30} + \dfrac{3}{10}$ without a model.

Cumulative Review

Write the prime factorization of each number.

1. 39

2. 52

3. 70

    3×13   **$2^2 \times 13$**   **$2 \times 5 \times 7$**

Find the GCF of each pair of numbers.

4. 21 and 28

5. 8 and 44

6. 24 and 60

    7   **4**   **12**

Find the LCM of each pair of numbers.

7. 3 and 9

8. 10 and 12

9. 9 and 15

    9   **60**   **45**

Evaluate each expression.

10. $\dfrac{1}{7} + \dfrac{3}{7}$

$\dfrac{4}{7}$

11. $\dfrac{5}{6} + \dfrac{5}{6}$

$1\dfrac{2}{3}$

12. $\dfrac{11}{16} - \dfrac{3}{16}$

$\dfrac{1}{2}$

13. Koby and his friends found $\dfrac{7}{12}$ of a pizza in the refrigerator. They ate $\dfrac{5}{12}$ of the pizza. What fraction of the pizza did they leave behind?

They left $\dfrac{1}{6}$ of the pizza.

Possible Journal Answers

1. **The least common denominator is a denominator of one of the addends when one of the denominators is a multiple of the other. For example, the least common denominator for $\dfrac{1}{2} + \dfrac{1}{6}$ is six, and six is a multiple of two.**

2. **One good thing about always using the product of the denominators is that it is quick and easy to determine a common denominator. One bad thing is that the common denominator might be a large number, and then finding equivalent fractions and simplifying the answer will take longer.**

3. **First, I found the least common multiple of 10 and 30, which was 30. I used that for the common denominator. The first fraction already had 30 as its denominator, so I only had to find an equivalent fraction for the second fraction. Because $3 \times 10 = 30$, I multiplied the numerator and denominator of the second fraction by three; $\dfrac{3 \cdot 3}{10 \cdot 3} = \dfrac{9}{30}$. Now the problem was $\dfrac{19}{30} + \dfrac{9}{30}$. I added the numerators and kept the denominator: $\dfrac{28}{30}$. Last, I simplified $\dfrac{28 \div 2}{30 \div 2} = \dfrac{14}{15}$.**