5 Module 8

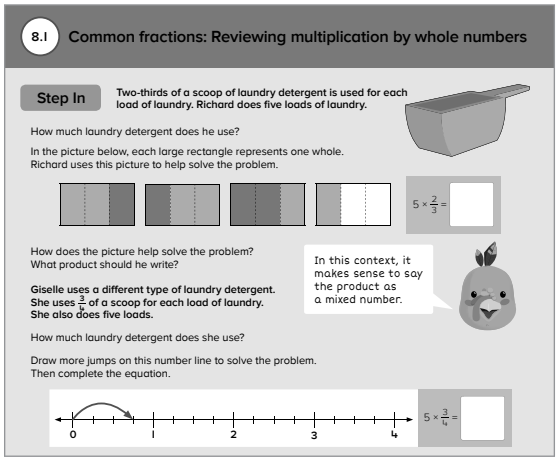
ORIGO STEPPING STONES 2.0

Core Focus

- Common fractions: Finding a fraction of a whole number
- Common fractions: Multiplying
- Common fractions: Solving word problems

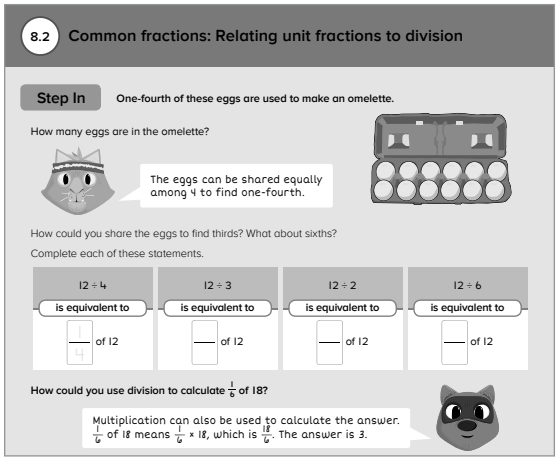
Common fractions

- **Area models** and **number lines** help students visualize the idea of multiplying fractions.
- Students know they can decompose (break apart) numbers to make multiplication easier (e.g. 5 × 23 is equivalent to 5 × 20 plus 5 × 3). Using this idea, students make sense of decomposing mixed numbers for multiplying (e.g. $5 \times 4\frac{1}{3}$ is equivalent to 5×4 plus $5 \times \frac{1}{3}$).



In this lesson, students review how to multiply common fractions and mixed numbers by whole numbers.

- Students use the connection between multiplication and division to find a unit fraction of a collection of objects.



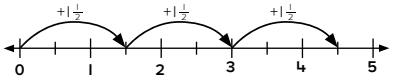
In this lesson, students relate multiplication and division to calculate the answer.

Ideas for Home

- Help your child make sense of multiplying with fractions by connecting the numbers to something they know. E.g. $\frac{1}{2} \times \frac{1}{3}$ might represent $\frac{1}{2}$ of a sandwich and your child eats $\frac{1}{3}$ of that. Ask, "How much of the whole sandwich did you eat?" They can see that $\frac{1}{6}$ makes sense because they ate a part of a part of the whole, so the answer will be less than either factor.
- Talk with your child about the times when you multiply fractions or mixed numbers. E.g. to double a recipe that uses $1\frac{1}{4}$ cups of flour, you multiply $1\frac{1}{4}$ by 2.

Glossary

- The **number line** below shows three jumps of $1\frac{1}{2}$ to solve $3 \times 1\frac{1}{2}$.



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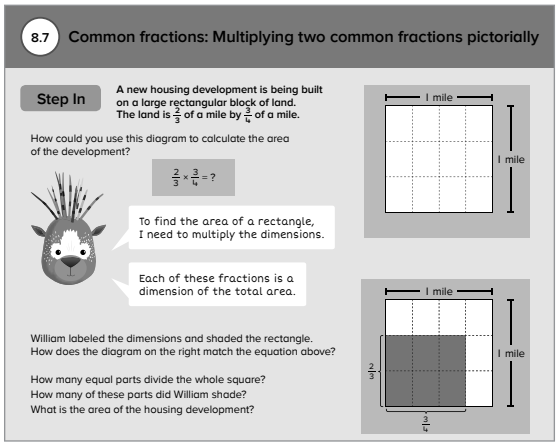
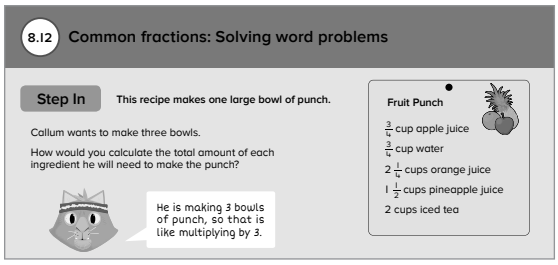
- Students use the familiar area model to visualize what is involved when doing fraction multiplication. Instead of whole numbers for the dimensions, students use unit fractions (fractions with a numerator of 1).



In this lesson, students use an area model (grid) to multiply two fractions that are less than one.

- Students solve word problems involving multiplication of fractions and mixed numbers. They consider a variety of strategies that can be used to solve the problems.



In this lesson, students solve word problems involving common fractions.

Ideas for Home

- Find two fractions and have your child figure out if the product will be less than, equal to, or greater than the first factor. (*Note*: If the first factor is multiplied by a number less than one, the product will be less than the first factor; if the first factor is multiplied by a number greater than one, the product will be greater than the first factor.)