Topic: Equivalent Fractions

| **Main Learning Goal and Core Concepts :** The goal of this lesson is to understand how to compare fractions based on equivalence. Students will be able to understand how fractions may be equivalent to one another as well as be able to solve problems with unlike denominators. |
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| **Lesson Brief:** **Equivalent fractions** are fractions that have the same amount but different values for the denominator.Steps to find the missing number for equivalent fractions:1. Determine whether the numerator or denominator is missing.
2. Compare the numerators or denominators that are the opposite of what is missing.
	1. If the denominator is missing, compare the numerators.
	2. If the numerator is missing, compare the denominators.
3. Find the factor that can be multiplied to get the other number.
4. Apply this factor to the missing numerator or denominator.

Example: Complete the equivalent fractions.$\frac{1}{6}=\frac{?}{24}$1. Determine whether the numerator or denominator is missing.The numerator is missing.2. Compare the numerators or denominators that are the opposite of what is missing.The denominators, 6 and 24, will be compared in this case.3. Find the factor that can be multiplied to get the other number.6 can be multiplied by 4 to get 24 since 6 x 4 = 24.4. Apply this factor to the missing numerator or denominator.1 x 4 = 4 OR$\frac{1×4}{6×4}=\frac{4}{24}$ **The missing numerator is 4.****Practice Problems:** **Directions: Complete the equivalent fractions.**1. $$$\frac{?}{9}=\frac{42}{63}$**Answer:** 6**Explanation:** 9 x 7 = 63? x 7 = 4242$÷$7 = **6****? = 6**2. $\frac{4}{8}=\frac{?}{24}$**Answer:** 12**Explanation:**8 x 3 = 244 x 3 = 12**? = 12**3.$ \frac{9}{12}=\frac{54}{?}$**Answer:** 72**Explanation:**9 x 6 = 5412 x 6 = 72**? = 72**4. $\frac{4}{?}=\frac{40}{100}$**Answer:** 10**Explanation:**4 x 10 = 40? x 10 = 100100$÷$10 = **10****? = 10**5. $\frac{1}{3}=\frac{10}{?}$1 x 10 = 103 x 10 = 30**? = 30** |
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| **Notes:*** Only compare the numerators or denominators by itself
	+ If the numerator is missing, only look at the denominators of the problem.
	+ If the denominator is missing, only look at the numerators of the problem.
* Multiply the factor on the same fraction you found the factor with.
	+ For $\frac{1}{6}=\frac{?}{24}$ , the 4 will be multiplied to 1 because 4 was multiplied by 6 to get 24. Thus, 4 will be multiplied by the numerator of 6 to get the answer.
* If you would like additional examples, take a look at this website [here](https://www.k5learning.com/worksheets/math/grade-4-equivalent-fractions-a.pdf).
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