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Modified In-School Off-School Approach Modules (MISOSA)  
**Distance Education for Elementary Schools**  
**SELF-INSTRUCTIONAL MATERIALS**



**CHANGING DISSIMILAR  
FRACTIONS TO SIMILAR  
FRACTIONS**



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by the Learning Resource Management and Development System (LRMDS),  
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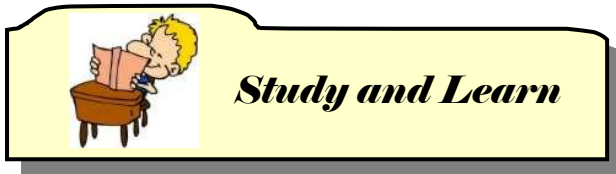
## CHANGING DISSIMILAR FRACTIONS TO SIMILAR FRACTIONS

**Objective:** Change dissimilar fractions to similar fractions

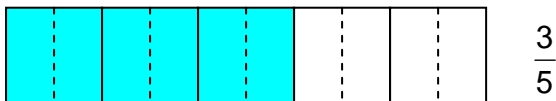
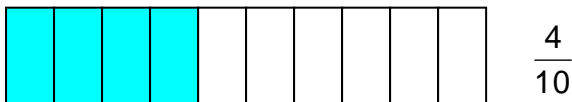


Look at the pair of fractions in each box. Write D if they are dissimilar and S if similar fractions.

1) $\frac{1}{4}, \frac{3}{4}$	2) $\frac{5}{7}, \frac{3}{8}$	3) $\frac{5}{8}, \frac{7}{8}$	4) $\frac{2}{5}, \frac{5}{10}$	5) $\frac{3}{4}, \frac{5}{7}$	6) $\frac{5}{9}, \frac{6}{7}$
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Look at the fraction bars. Do they have the same length?



$\frac{4}{10}$  and  $\frac{3}{5}$  are dissimilar fractions. Their denominators are not the same.

Let's make  $\frac{4}{10}$  and  $\frac{3}{5}$  similar fractions. Look at the second fraction bar.

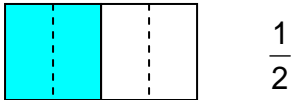
Broken lines were drawn to show how  $\frac{3}{5}$  can be changed to fraction whose





denominator is 10. By counting the shaded area you will get  $\frac{6}{10}$ ,  $\frac{4}{10}$  and  $\frac{6}{10}$  are now similar fractions. **They have the same denominators.**

Let's try another example.



$\frac{1}{2}$  and  $\frac{3}{4}$  are dissimilar fractions because they have different denominators.

How can we change  $\frac{1}{2}$  and  $\frac{3}{4}$  to similar fractions?

Look at the fraction bar with broken lines. If we count the shaded parts you'll have  $\frac{2}{4}$ . So  $\frac{3}{4}$  and  $\frac{2}{4}$  have the same denominators now. *They are similar fractions.*

Let's change  $\frac{4}{10}$  and  $\frac{3}{5}$ ,  $\frac{1}{2}$  and  $\frac{3}{4}$  into similar fractions without using illustrations. Drawing fraction bars will consume a lot of your time. The process of converting dissimilar fractions into similar fractions without the use of fraction bars is actually very simple. You'll find it easier and faster.

$$\frac{4}{10}, \frac{3}{5}$$

Look at the denominators. 10 is a multiple of 5. The least common multiple of 10 and 5 is 10.

What will you multiply to  $\frac{4}{10}$  to retain its denominator? What will you multiply to  $\frac{3}{5}$  to change its denominator to 10?





$$\frac{4}{10} \times \frac{1}{1} = \frac{4}{10}$$

$$\frac{3}{5} \times \frac{2}{2} = \frac{6}{10}$$

$\frac{4}{10}$  and  $\frac{6}{10}$  have the same denominators. They are similar fractions.

How about  $\frac{1}{2}$  and  $\frac{3}{4}$ . The least common multiple of the denominators is 4.

$$\frac{1}{2} \times \frac{2}{2} = \frac{2}{4}$$

$$\frac{3}{4} \times \frac{1}{1} = \frac{3}{4}$$

$\frac{2}{4}$  and  $\frac{3}{4}$  are similar fractions. They have the same denominators which is 4.

Now, let's try fractions whose least common multiple is not one of the denominators.



$\frac{1}{3}, \frac{2}{4} \rightarrow$  List down the multiples of the denominators in order. Find their least common multiple.

3, 6, 9, 12

4, 8, 12, 16

The least common multiple of 3 and 4 is 12.



$\frac{1}{3} \times \frac{4}{4} = \frac{4}{12} \rightarrow$  Multiply  $\frac{1}{3}$  by  $\frac{4}{4}$  since 12 is the 4<sup>th</sup> multiple of 3.



$\frac{2}{4} \times \frac{3}{3} = \frac{6}{12} \rightarrow$  Multiply  $\frac{2}{4}$  by  $\frac{3}{3}$  since 12 is the 3<sup>rd</sup> multiple of 4.

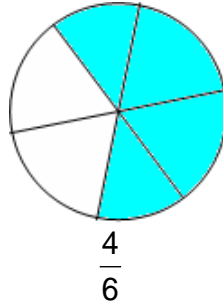
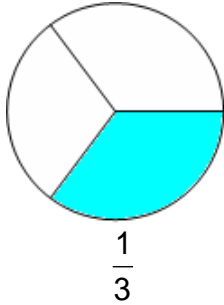
So  $\frac{1}{3}, \frac{2}{3}$  when changed to similar fractions are  $\frac{4}{12}$  and  $\frac{6}{12}$ .



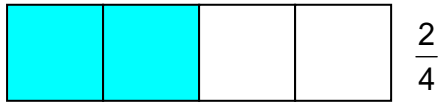


Change the following dissimilar fractions to similar fractions. In the first two items, study the illustrations.

1)



2)



3)  $\frac{2}{5}, \frac{2}{3} \rightarrow \frac{\square}{15}, \frac{\square}{15}$

4)  $\frac{6}{8}, \frac{2}{4} \rightarrow \frac{6}{\square}, \frac{4}{\square}$

5)  $\frac{6}{7}, \frac{2}{3} \rightarrow \frac{\square}{21}, \frac{\square}{\square}$



## *Wrap Up*

- To change dissimilar fractions to similar fractions, first find their least common denominator.
- The least common denominator (LCD) of dissimilar fractions is the least common multiple (LCM) of their denominators.
- Use the LCD to write similar fractions.



## *On Your Own*

Change the following to similar fractions.

1)  $\frac{2}{3}, \frac{1}{4}$

2)  $\frac{1}{5}, \frac{5}{15}$

3)  $\frac{3}{7}, \frac{1}{2}$

4)  $\frac{4}{3}, \frac{2}{6}$

5)  $\frac{7}{8}, \frac{2}{4}$

Check your answer with the answer key. If you get...

4-5 - Excellent! You may now proceed to the next lesson

3-2 - You need to review the processes you missed

0-1 - You need to repeat the whole process. Ask your teacher or elder to help you.





## Key to Correction

### CHANGING DISSIMILAR FRACTIONS TO SIMILAR FRACTIONS

#### REVIEW

1. S
2. D
3. S
4. D
5. D
6. D

#### TRY THESE

- 1)  $\frac{2}{4}, \frac{4}{6}$
- 2)  $\frac{6}{12}, \frac{9}{12}$
- 3)  $\frac{6}{15}, \frac{10}{15}$
- 4)  $\frac{6}{8}, \frac{4}{8}$
- 5)  $\frac{18}{21}, \frac{14}{21}$

#### ON YOUR OWN

- 1)  $\frac{8}{12}, \frac{3}{12}$
- 2)  $\frac{3}{15}, \frac{5}{15}$
- 3)  $\frac{6}{14}, \frac{7}{14}$
- 4)  $\frac{8}{6}, \frac{2}{6}$
- 5)  $\frac{7}{8}, \frac{4}{8}$