



**PicScience Presents:**

**COMPARING  
FRACTIONS  
PRACTICE GUIDE**



## How to Make the Most of This Workbook

This little workbook is a great way to help you practice and learn how to compare fractions. A unique aspect of the design is that it will help you identify any areas that may be causing trouble with comparing fractions.

First, you will go through the tutorial to refresh yourself and review simplifying fractions. This tutorial will help you reinforce the basic concepts so you will be ready to practice in the next sections of the workbook.

The workbook then guides you through the exercises based on your scores. You'll check your answers at the end of each exercise.

For example, if you answer more than 7 correctly on the first comparing fractions exercise, you'll move to the next comparing fractions exercise.

However, if you answer less than 7 problems correctly on the first comparing fractions quiz, this may mean that you could benefit from some additional guidance and examples in comparing fractions. We will want to make sure that you can solve basic equivalent fractions problems before we continue to give you more practice on comparing fractions. Why? Because, to compare fractions, you need to be able to easily complete equivalent fractions problems.

At the end of each exercise, you'll be given instructions on how to proceed based on your score.

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# Let's Compare Fractions

## Tutorial

**Which fraction is larger  $\frac{1}{2}$  or  $\frac{3}{4}$ ?**

We can use what we learned in the previous chapter about common denominators to compare fractions.

### Step 1:

Let's find the common denominator for  $\frac{1}{2}$  and  $\frac{3}{4}$ .

- We find the common denominator by finding a pair of fractions that are equivalent to the fractions  $\frac{1}{2}$  and  $\frac{3}{4}$ .
- Multiply the numerator and the denominator of the fraction by the same number to get an equivalent fraction.

We'll choose the numbers in each case so that the two new fractions (which are equivalent to  $\frac{1}{2}$  and  $\frac{3}{4}$ ) have the same denominator.

- The denominators of these fractions are 2 and 4. What number is a multiple of both 2 and 4?

Number	Multiples
2	2, 4, 6, 8, 10, 12, 14, etc.
4	4, 8, 12, 16, 20, 24, 28, etc.

The number 4 is the smallest multiple of both 2 and 4.

Therefore, we'll make a common denominator of 4.

**Step 2:**

Multiply the numerator and denominator of  $\frac{1}{2}$  by 2 in order to make an equivalent fraction with a denominator of 4.

**Step 3:**

Multiply the numerator and denominator of  $\frac{3}{4}$  by 1 in order to make an equivalent fraction with a denominator of 4. Multiplying by 1 doesn't change the fraction so we still have  $\frac{3}{4}$ .

Now, the two fractions  $\frac{2}{4}$  and  $\frac{3}{4}$  have the same denominator.

**Step 4:**

We can compare the fractions now because they have the same denominator.

When we compare fractions with the same denominator, we look at each numerator.

In this case, the numerator 3 is larger than the numerator 2, so  $\frac{3}{4}$  is greater than  $\frac{2}{4}$ .  $\frac{3}{4} > \frac{2}{4}$

# Comparing Fractions 1

**Write the correct comparison symbol (<, > or =) in each box.**

1)  $\frac{2}{3}$    $\frac{1}{8}$

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

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

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

5)  $\frac{1}{4}$    $\frac{2}{6}$

6)  $\frac{5}{6}$    $\frac{4}{8}$

$$7) \frac{1}{6} \square \frac{2}{3}$$

$$8) \frac{5}{20} \square \frac{9}{10}$$

$$9) \frac{4}{6} \square \frac{1}{4}$$

$$10) \frac{7}{11} \square \frac{2}{4}$$

## Comparing Fractions Solutions 1

1.  $\frac{2}{3} > \frac{1}{8}$

2.  $\frac{4}{5} > \frac{4}{8}$

3.  $\frac{3}{4} > \frac{2}{6}$

4.  $\frac{2}{3} > \frac{1}{4}$

5.  $\frac{1}{4} < \frac{2}{6}$

6.  $\frac{5}{6} > \frac{4}{8}$

7.  $\frac{1}{6} < \frac{2}{3}$

8.  $\frac{5}{20} < \frac{9}{10}$

9.  $\frac{4}{6} > \frac{1}{4}$

10.  $\frac{7}{11} > \frac{2}{4}$

**\*Keep score of your answers. How many did you get right and wrong?**



## Option 1:

**If you answered 7 or more problems correctly on Comparing Fractions 1, go to page 10 to continue with Comparing Fractions 2 practice.**

## Option 2:

**If you answered fewer than 7 problems correctly on Comparing Fractions 1, go to page 15 to practice equivalent fractions.**

## Comparing Fractions 2

**Write the correct comparison symbol (<, > or =) in each box.**

$$1) \frac{2}{5} \boxed{\phantom{<}} \frac{4}{7}$$

$$6) \frac{6}{12} \boxed{\phantom{<}} \frac{6}{9}$$

$$2) \frac{21}{35} \boxed{\phantom{<}} \frac{16}{40}$$

$$7) \frac{1}{4} \boxed{\phantom{<}} \frac{1}{3}$$

$$3) \frac{60}{144} \boxed{\phantom{<}} \frac{12}{24}$$

$$8) \frac{10}{10} \boxed{\phantom{<}} \frac{6}{6}$$

$$4) \frac{5}{6} \boxed{\phantom{<}} \frac{33}{42}$$

$$9) \frac{1}{1} \boxed{\phantom{<}} \frac{9}{9}$$

$$5) \frac{15}{21} \boxed{\phantom{<}} \frac{4}{7}$$

$$10) \frac{11}{11} \boxed{\phantom{<}} \frac{4}{10}$$

## Comparing Fractions Solutions 2

1.  $<$

6.  $<$

2.  $>$

7.  $<$

3.  $<$

8.  $=$

4.  $>$

9.  $=$

5.  $>$

10.  $>$

**\*Keep score of your answers. How many did you get right and wrong?**

## Option 1:

**If you answered 7 or more problems correctly on Comparing Fractions 2, go to page 10 to continue with comparing fractions practice.**

## Option 2:

**If you answered fewer than 7 problems correctly on Comparing Fractions 2, go to page 1 Equivalent Fractions 2 worksheet.**

# Equivalent Fractions Tutorial

We need to understand equivalent fractions before we can compare fractions. Let us take a look at equivalent fractions.

## Equivalent Fractions Examples

$$\frac{1}{2} = \frac{3}{6}$$

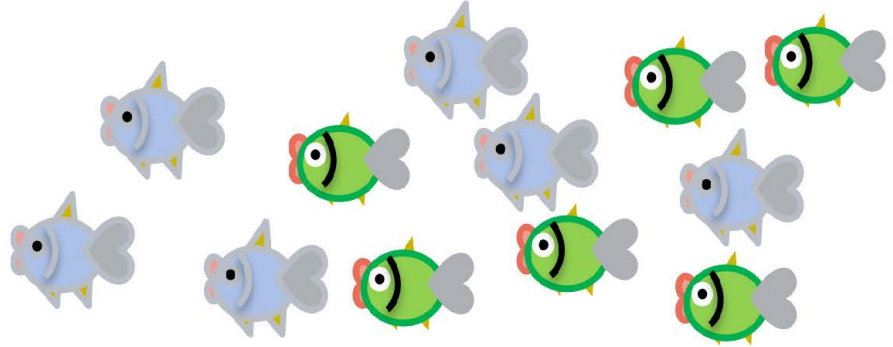
$$\frac{1}{2} \times \frac{3}{3} = \frac{3}{6}$$

$$\frac{3}{4} = \frac{9}{12}$$

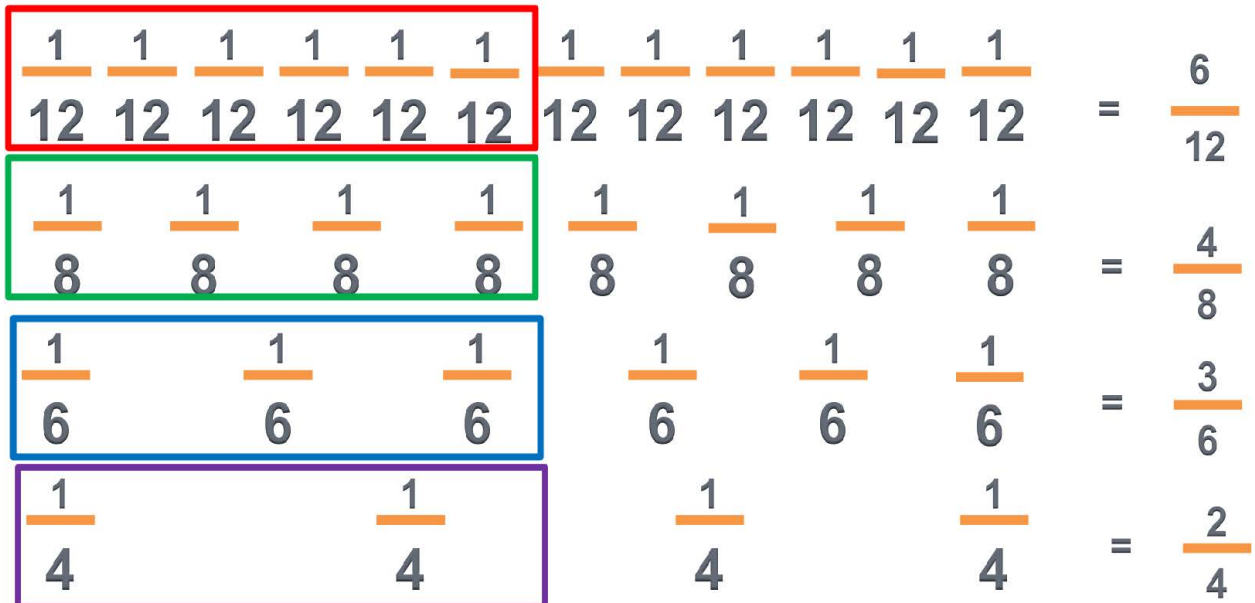
$$\frac{3}{4} \times \frac{3}{3} = \frac{9}{12}$$

*Note: Multiplying the numerator and the denominator by the same nonzero whole number will change that fraction into an equivalent fraction but it will not change the value.*

## Showing Equivalent Fractions



$\frac{2}{4}$ ,  $\frac{3}{6}$ ,  $\frac{4}{8}$ , and  $\frac{6}{12}$  are equivalent fractions



# Equivalent Fractions 1

Complete the equivalent fractions.

$$1. \quad \frac{4}{12} = \frac{\quad}{6}$$

$$2. \quad \frac{1}{2} = \frac{5}{\quad}$$

$$3. \quad \frac{2}{3} = \frac{\quad}{9}$$

$$4. \quad \frac{3}{7} = \frac{9}{\quad}$$

$$5. \quad \frac{2}{5} = \frac{\quad}{15}$$

$$6. \quad \frac{5}{6} = \frac{\quad}{18}$$

$$7. \quad \frac{4}{9} = \frac{16}{\quad}$$

$$8. \quad \frac{1}{4} = \frac{6}{\quad}$$

$$9. \quad \frac{10}{11} = \frac{50}{\quad}$$

$$10. \quad \frac{7}{9} = \frac{49}{\quad}$$

**\*Keep score of your answers. How many did you get right and wrong?**

## Equivalent Fractions Solutions 1

1. 2

2. 10

3. 6

4. 21

5. 6

6. 15

7. 36

8. 24

9. 55

10. 63



## Equivalent Fractions 2

Complete the equivalent fractions.

1.  $\frac{1}{3} = \frac{\quad}{12}$

2.  $\frac{4}{5} = \frac{12}{\quad}$

3.  $\frac{6}{7} = \frac{\quad}{42}$

4.  $\frac{2}{6} = \frac{\quad}{24}$

5.  $\frac{3}{8} = \frac{12}{\quad}$

6.  $\frac{6}{9} = \frac{\quad}{45}$

7.  $\frac{1}{10} = \frac{\quad}{30}$

8.  $\frac{2}{4} = \frac{14}{\quad}$

9.  $\frac{5}{12} = \frac{\quad}{36}$

10.  $\frac{9}{11} = \frac{27}{\quad}$

**\*Keep score of your answers. How many did you get right and wrong?**

## Equivalent Fractions Solutions 2

1. 4

2. 15

3. 36

4. 8

5. 32

6. 30

7. 3

8. 28

9. 15

10. 33