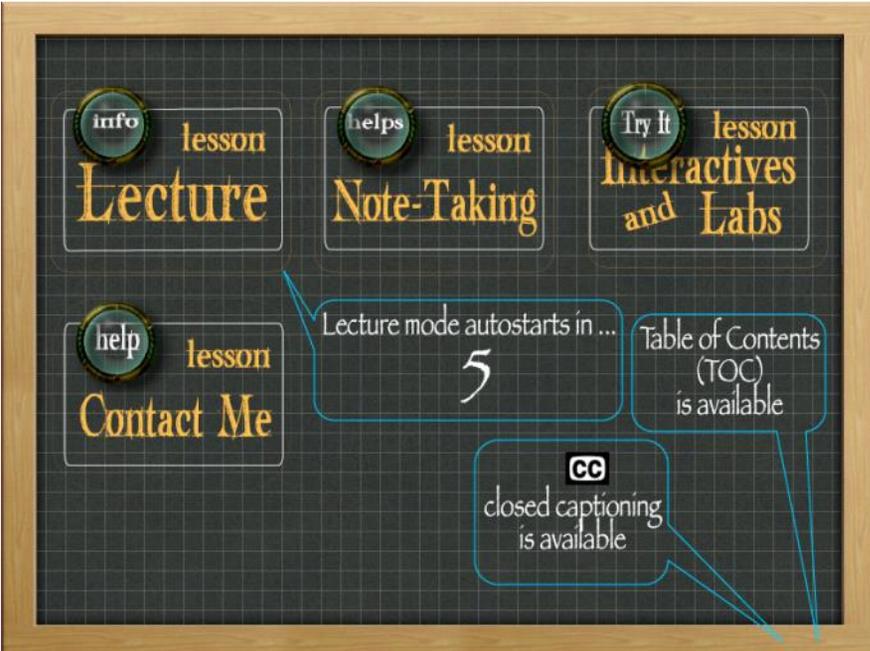
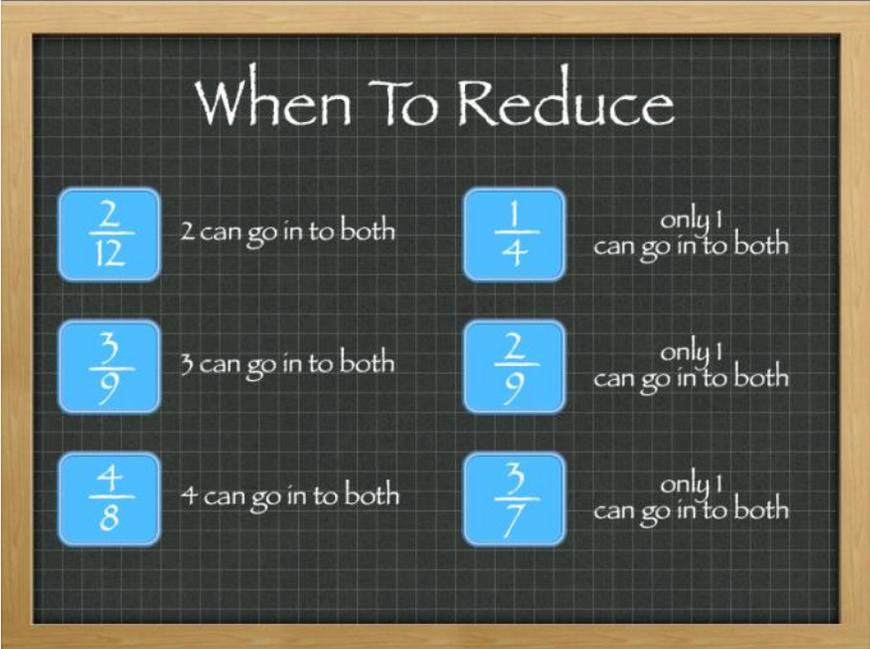


# Reducing Fractions

Thursday, March 01, 2012  
8:42 AM

Slide	Notes
 <p>A navigation menu slide with a dark grid background and a wooden frame. It features four lesson buttons: 'Lecture' (info icon), 'Note-Taking' (helps icon), 'Interactives and Labs' (Try It icon), and 'Contact Me' (help icon). Callout boxes provide additional information: 'Lecture mode autostarts in ... 5', 'Table of Contents (TOC) is available', and 'closed captioning is available' (with a CC icon).</p>	
 <p>A slide titled 'When To Reduce' with a dark grid background and a wooden frame. It displays six fractions in blue boxes with their reduction rules: <math>\frac{2}{12}</math> (2 can go in to both), <math>\frac{1}{4}</math> (only 1 can go in to both), <math>\frac{3}{9}</math> (3 can go in to both), <math>\frac{2}{9}</math> (only 1 can go in to both), <math>\frac{4}{8}</math> (4 can go in to both), and <math>\frac{3}{7}</math> (only 1 can go in to both).</p>	<p>One of the key times to be sure that your fraction is in reduced, or simplified, form is when you report your answers.</p> <p>Let's take a look at these example fractions and learn to identify when the fraction is needing to be reduced versus it already being in the simplest form.</p> <p>The focus in identifying theses is to examine if there is a number, other than 1, that can go in to both the numerator and the denominator.</p> <p>For <math>\frac{2}{12}</math>, 2 can go in to each one, so this one will need to be reduced.</p> <p>Let's check <math>\frac{3}{9}</math>. Three can go in to both, so it needs to be reduced.</p> <p><math>\frac{4}{8}</math>. Four can go in to both numbers, so it needs to be reduced.</p> <p><math>\frac{1}{4}</math>. Only 1 can go in to both numbers. It will not need to be reduced because it is already in simplest form.</p> <p><math>\frac{2}{9}</math>. There are no numbers, other than 1, that can go in to both, so it is already in reduced</p>

## Reducing Fractions

GCF

$$12 = 2 \times 2 \times 3$$

$$18 = 2 \times 3 \times 3$$

is the biggest number that goes in to both numbers

When there is a number that will go in to the numerator and denominator other than 1, it can be reduced (simplified)

$$\frac{12}{18} \xrightarrow{-6} \frac{2}{3}$$

form.

3/7. Other than 1, there are no numbers that can go in to both the three and the 7. It is already reduced.

Now let's learn how to reduce the fractions. Usually, you will just be able to look at a fraction and you will just realize that 2 will go in to both or a 3 will go in to both. It is a perk of learning your multiplication facts well.

You might sometimes hit one that you are not as sure about or maybe you see that 2 goes in to both numbers but after you reduce it you realize that there is still yet another number that will go in to both and you have to reduce it again.

I am going to show you a technique that will make the not as obvious ones easier. Let's say that we have a fraction with 12 in the numerator and 18 in the denominator. They are both even numbers, so you know for sure that 2 will go in to both. But, then you realize 3 will too.

Let's list out the factors of 12 and the factors of 18.

Now, circle any pair of factors that you see in both. Each has at least one 2 and at least one 3. Multiply those together to get 6. Six is the biggest number that will go in to both the 12 and the 18. That is called the greatest common factor or GCF for short.

Now let's reduce the 12/18ths by dividing by 6/6ths. When you reduce, you will always be dividing. The reduced fraction is 2/3.

## Drag and Drop Activity

Assume these fractions are answers that you must have in the simplest, reduced form possible. Drag the fractions that are already in simplest form into its container and the ones that must be reduced into the Reduce It container.

$\frac{1}{4}$

$\frac{4}{8}$

$\frac{3}{7}$

$\frac{2}{9}$

$\frac{2}{12}$

$\frac{3}{9}$

Submit

Already Reduced

Reduce It

$\frac{2}{4} \approx \frac{\square}{\square}$

$\frac{12}{18} \approx \frac{\square}{\square}$

$\frac{3}{9} \approx \frac{\square}{\square}$

$\frac{9}{10} \approx \frac{\square}{\square}$

Congratulations!  
You have completed  
this topic

Give us feedback about  
this lesson if you wish...

