10-2:   Equal Ratios

Objective: You've used ratios to compare quantities. Now you will learn how to use tables to find equal ratios.

A ratio is a kind of fraction. Create equal ratios by multiplying both quantities of the ratio by the same amount. A table can help organize this information.

The city planners in Boston have decided that the town needs 2 fire hydrants for every 3 city blocks. This ratio is shown in the table below. Use the table to create equivalent ratios to the original 2:3 ratio:

		x 2	x 3	x 4	?	?
Fire hydrants	2	4	6		10	
City blocks	3	6		12		18

Extend: So you can multiply to create equal ratios. Is there anything else you can do?

That's right! Division can also be used to find equal ratios. **Divide the original ratio.** You can use any number, but numbers that go evenly into both quantities are the easiest to use. Let's try it:

In Mr. Gow's "Walk in the Woods" program, 24 out of the 32 students could identify a Great Horned Owl. Create a table showing the number of students who can identify the **GHO**, and create equivalent, or equal, ratios using division:

		÷ 2	÷ 4	÷ 8
# Identify **GHO**	24	12		
Total # Walkers	32	16		

You Try:
Give two ratios equal to the given ratio:

a.   4 to 5   b.   10:20   c. $\frac{5}{8}$

Extension: For a given ratio, how many equivalent ratios can you create? Why?