"Make a Joyful Noise": Renaissance Art and Music at Florence Cathedral

Math Integration Activity: Renaissance Ratios

Leonardo Fibonacci was a Renaissance mathematician who generated a sequence of numbers that represent a "natural" order. The Fibonacci sequence is generated by adding the previous two numbers in the list together to form the next and so on and so on: 1, 1, 2, 3, 5, 8, 13, 21, 34, 55... Divide any number in the Fibonacci sequence by the number before it, and the answer is always close to 1.61803. This is known as the Golden Ratio, which can be found throughout nature. Ratios are pairs of numbers used to make comparisons. Ratios can be written in different ways: 1 to 1.61803 or 1:1.61803, both meaning the same thing. Renaissance artists used the Golden Ratio to determine beautiful proportions in painting compositions. The beautiful proportions of the Golden Ratio are still used today. If you measure a credit card, you'll find it is a perfect golden rectangle.

Have your students use M&Ms to make comparisons using ratios! Each student gets a small bag. What are the color ratios? For example, what is the ratio of red M&Ms to blue M&Ms in your bag?, etc. Have your students calculate at least 3 color ratios in their bags.