

## The Golden Moment Project

Name: \_\_\_\_\_

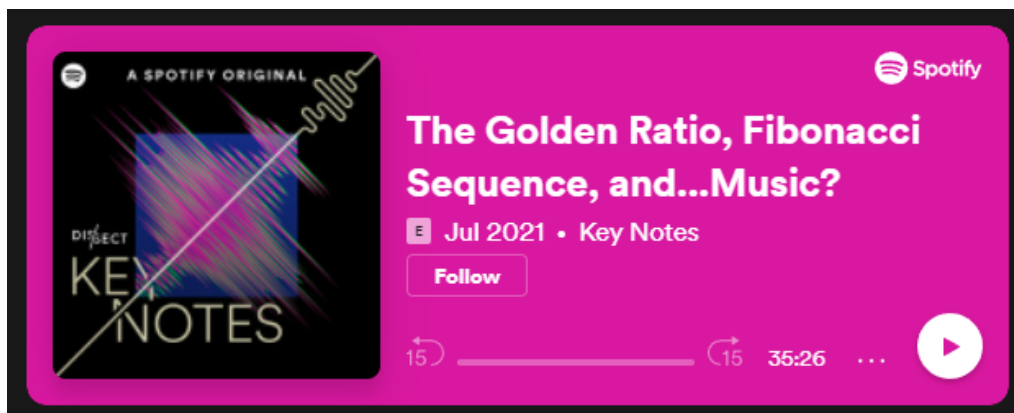
As we begin our study of ratios and proportions, we are going to consider one of the most famous ratios - the golden ratio. The word ratio is just a shortened form of the word rational and rational numbers are fractional numbers. The golden ratio is the fraction:

$$\phi = \frac{1+\sqrt{5}}{2}$$

The golden ratio is approximately 1.618 and can be found in so many different mathematical applications including cutting a square into smaller rectangles, it has been used to analyze proportions of natural objects such as the spiral arrangements in a pine cone, it has also even been used in man-made systems such as following financial markets. However, we are going to study the golden ratio through an entirely different lens - music!

### Part 1: Listen!

We will listen to the following podcast in class:



### Part 2: Create!

Now it is your turn! In this part of the assignment you will do one of following tasks:

- 1) Find a song that follows the 'golden ratio rule' - it hits an important or pivotal moment in the song approximately 62% of the way through the song.

OR

- 2) Create your own song using [SonicPi](#)! After downloading SonicPi you should go through the short tutorial to learn how to code and make music. You do not need to make a very long song, however something special should happen approximately 62% of the way through your song.

### *Part 3: Share!*

After completing either option above, making your own song using SonicPi or finding a song that has a golden moment, take the total length of the song and using the golden ratio calculate the golden moment and then share why you picked or created the song in the following google slideshow that we will share with the class.

[Google SlideShow](#)

### *Part 4: Comment!*

Listen to the full song of one of your classmates - pay attention at the golden moment! Did it feel like an important point of the song? Leave your classmate some feedback on their choice of song, the golden moment, or something else you noticed.

### *Part 5: The Grade...*

**20 points** Your Creation + Filling out the google slideshow correctly

**10 points** Commenting on a classmates song

**Total: 30 points!**