<u>Song Match Educator Guide</u>

<u>The flow of running Song Match</u>:

1. The programmer should have all needed files installed and have the game set up ready to launch. This step is explained in the programmer's guide located at: http://cozmo-song-match.readthedocs.io/en/latest/index.html.
2. Place the game's cube mat in front of the player(s). Also, have the cubes placed on top of the cube mat. There are symbols on the mat for reference, but the game dynamically assigns the cubes, meaning, they can be placed in any order.
3. Place Cozmo facing the cubes and player(s). The mat should be between Cozmo and the player(s). There is a diagram showing the layout in the user's guide located at: http://cozmo-song-match.readthedocs.io/en/latest/_downloads/SongMatch.pdf
4. When everything is in the right position, go to the computer and open command prompt. With command prompt open, navigate to the directory with the Song Match files and run the command "python3 main.py" to start the game.
5. The game will ask for the number of players. Tap the cube associated with the number of players wanting to play (up to 3 players).
6. After the number of players are chosen, the game will start.
7. There is nothing more needed at this point, the game will run until the end of the song.
8. The game play is described in more detail in the user's guide.

<u>How to engage players</u>:

You can tell the players that Cozmo is working on fine tuning his hearing and wants to play a song match game to help with that. The game helps him with hearing a musical note, and he has to recognize and mimic that note. He doesn't want to play alone though, so ask if they would like to play the game with Cozmo. Then, ask who would like to play and select up to 3 players (per game).

<u>How to explain the game to a child</u>:

First, the game will play 3 notes. Then you, as the player, will try to play the same notes, in the same order. Then Cozmo will try. If you make it all the way to the end of the song, you win!

<u>How to explain the game to an adult</u>:

There are 3 songs that are randomly chosen to be played for the game. First, the game needs to know how many players there are. Next, the game starts by playing the first 3 notes of a song. When the player is prompted, they will try to mimic the notes that were played by tapping the cubes like they were piano keys. After the player(s) turn, Cozmo will try to play the same notes. If you played the notes correctly, the cubes will flash green. If the notes are played

incorrectly, they will flash red. After the first round, the game will play a sound indicating going to the next round and will increase the notes need to be played. With every round, the cycle repeats. The game ends when there is one person left, or the end of the song is reached. If there are multiple players (including Cozmo) that reach the end of the song, they all win!

Initiating the game:

First, the computer should be properly set up. More detail how to do this is in the programmer's guide. (http://cozmo-song-match.readthedocs.io/en/latest/index.html).

1. Open a command prompt (or terminal for Linux and Mac) and navigate to the directory with the Song Match files. They type the command "python3 main.py"
2. The game will ask for the number of players and run from there.

Finishing a game:

When the game comes to an end. Cozmo will announce who the winners are. Then the song will play in its entirety, allowing the players to hear the song uninterrupted. While the song plays, Cozmo will do a little victory animation if he won, or else he will act a little sad if he lost. After the song is played and Cozmo does is animation, the game will end and must be started from the command line again to start the next round.

How does Cozmo do it? (the reveal):

Cozmo does not have a microphone, so he cannot "hear" the song. Instead, he uses the sensors inside the cubes to know when they are tapped. These sensors also allow him to know which cube was the one being tapped. The cubes us a gyroscope sensor that can detect any movement, such as being shaken or tapped. When it is Cozmo's turn he faces the cube he would like to select and taps his arms to make his selection. After his arms tap, the cubes know when to light up and play a sound through the computer. In the program's code for Cozmo, there is a random number generated for his chance of error. During his gameplay, if that number is selected, he will make a mistake. This gives the appearance of him actually trying to memorize the order and occasionally get it wrong. It's no fun if he is always right!