Handy tips for Teachers when first presenting this Bluetooth activity

TEACHER NOTES WHEN USING BLUETOOTH:

1) Although all the supplied Dongles will likely have the same one or two "Names" (Such as "YET-M1") , this does NOT mean that all Dongles called "YET-M1" can play from the one transmitter!
2) Every Bluetooth device has it's own unique 48 bit address.
   a. This is far too many "bits" for humans to get correct reliably.
   b. Therefore they allow us to give them easier to understand "names".
   c. Many devices can share the same "name" .
   d. BUT they will not have the same unique 48 bit address!
3) This may have implications in the following scenario:
   a. The Teacher completes a demonstration of connecting to one known Bluetooth Dongle with a "name" of "YET-M1".
   b. Now the class full of students switch ON their Bluetooth dongles.
   c. They ALL have Dongles using the name "YET-M1".
   d. Students rush to "pair" to the "YET-M1" shown on their phone.
   e. When the students go to play their own music… chaos reigns as various "wrong" Boom Boxes are playing unexpected music!
4) Suggestions:
   a. When students are "pairing" to their Bluetooth Dongles, they do so in an orderly manner. Only ONE student to initialize their Dongle at a time then complete their "pairing". Once this is done, the next student is to conduct their "pairing". Repeat this one-by-one process until all students have successfully "paired" their correct "Dongle".
   b. Once all students are correctly "paired" then they can connect or disconnect as they wish.

5) <u>Tips and avoiding some common problems:</u>
   a. Having "paired" to one dongle named "YET-M1", it is very confusing trying to pair to another one with the same name. (This is permissible within the Bluetooth protocols!)
      i. We have found it beneficial for ourselves (and classroom Teachers) to "Unpair" from dongles if we doing demonstrations!
   b. Do NOT be concerned by "noise" coming over the Bluetooth connection if there is NO data being streamed. This is very common.
      i. Once music data starts, the "Noise" will appear to reduce (though it won't go away completely).
      ii. One trick is to :
         1. Wind UP the volume of the data being sent from the phone.
         2. Wind DOWN the volume of the Audio Amplifier.
         3. This effectively changes the "Signal-to-Noise- Ratio".
         4. A powerful demonstration is to do the REVERSE of this…
            With a low signal coming from the phone and high gain amplifier boosting every part of the incoming signal, then "noise" will also be amplified and can become very annoying!