



# STEM Sound Investigations Secret Messages Student Inquiry Sheet



Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

A recorded message can be found on a "secret message strip" called a Talky Tape. Do careful observation and experimentation to see if you can decipher the message.

**CAUTION:** You can explore the strip, but do not cut or damage it in any way.

1. Your Talky Tape has a secret message for you. You just need to find a way a way to get the message off of the tape so that you can understand it. In the space below, explain what you did to hear the message and what you think the message said.
2. Other students in your class may have the same message as you do on their Talky Tapes. Find them and discuss what you think the message says. Write what the group thinks the message is. Is this the same or different from what you initially thought?
3. Working with your group, write and draw pictures that show how this tape makes sounds. You might want to look at the tape with a magnifying lens. How does this help produce sound? Be prepared to share you ideas with others in the class.
4. An application of the Talky Tape technology can be seen at this link. Check out the musical road at <http://www.youtube.com/watch?v=YR5Cejq2uyc>. Invent and describe another way you think this technology can be used.



**Check  
Point**



**Take Home Connection:** The "phonograph" was invented by Thomas Edison in 1877. It recorded sound by making groves into tinfoil from sound vibrations. To playback the sound, a needle moved along the groves on the tinfoil and vibrated creating the sound. Records, the main source of music before computers, used this technology to produce music. See if you can listen to the music using a piece of paper rolled into a funnel and a needle. Find an old record and turntable. Insert the needle in the paper at the small end. Hold the funnel so that you can gently put the needle in a grove of the record and turn the turntable. What can you hear? How are records like Talky Tapes?