



# SOUND COLLABORATIONS

AN INFERNO COOKBOOK & MANIFESTO

(1ST edition)





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supported Inferno over the years, and all life that calls this land home, past, present, and future.

## Land Acknowledgement:

We recognize that long before Chicago was a city, that it was and is the traditional homelands of many Native tribes. We offer respect and gratitude to the indigenous stewards and ancestors of this land we now occupy. A proper land acknowledgement from an indigenous advocate and educator is in the works, and will be included in the next and all future editions of this guidebook.

## Photo Credit:

All photos included in this book were taken by Inferno teaching artists and facilitators, or Inferno Doc:Team members, unless otherwise noted.

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# INTRODUCTION

## **What Inferno is and what we do:**

Inferno is a mobile youth arts program of the Chicago Park District. We use recording, digital, new, and traditional media to facilitate experimentation, collaboration and civic dialogue. Through workshops, pop-up activities, participatory performance series, and hangouts, we create with people in public (preferably outdoor) spaces. Originally known as Inferno Mobile Recording Studio, we have grown to include many forms of art and media. We are informal educators and creators who promote self-education as an empowering, lifelong and life-changing skill for all people.

## **What you'll see in this booklet:**

Verbs and actions you can take to convert the energy in space full of desperate (or non-desperate) relationships into a community that is democratic. You'll find how to help a large group of people be creative together in sound. And you'll see how digital technology can help democratize a large group so that the normal tropes of talent vs non-talent, bullies vs the bullied, those who are shy vs those who are extroverted, don't get in the way. The instructions will show you how you can use digital music-making and other types of technology to include everyone's voice in process of creativity.





# INFERNO FOUNDATIONS

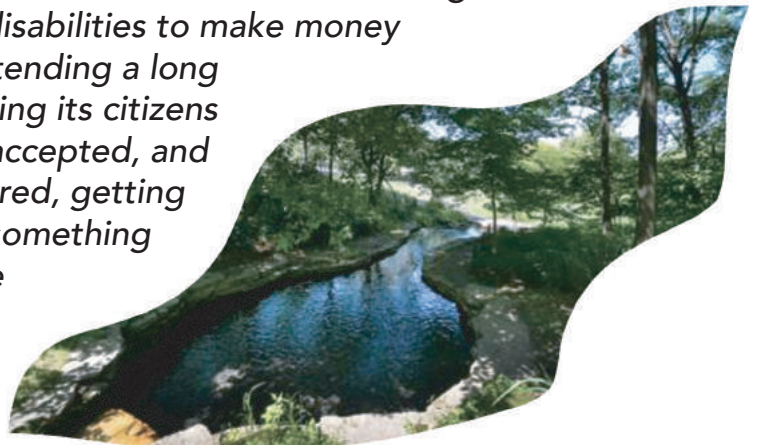
(taken from conversations between Jayve Montgomery and Sean Heaney)

(in conversation): The name Inferno comes from the fact that the idea was the brainchild of 3 particular teens at Marquette Park in summer 2005. Michael was adamant on the Inferno name, and Nico and Brittany were also there at the start. I (Jayve) was originally brought to support their vision: Inferno Studios. They really had this "urban kids letting you know that they feel like they're living in hell" vibe to it. Inferno -- it's hot. The tagline that Michael wanted was,

**"MAKING HOT TRACKS IN THE CITY"**

It was to create producers instead of consumers and bridge the digital divide. I don't know if it was legal or it was their job, but I found it very noble of the Chicago Park District to take that on. It's kind of like libraries doing similar things. **You're going to do whatever you can in your space to help out your people, your participants, your customers.**

Chicago's had a long history since the Works Progress Administration of providing (and cities in general do this) services for its citizens to engage in some sort of growth, whether it be creative, physical, even vocational, like jewelry-making classes and hat-making classes. There's been a long tradition of teaching people skills that engage their humanity, but also give them a skill to use out in the commercial world. And though it wasn't preparing kids and people with disabilities to make money from music, what it was doing was just extending a long history of the Chicago Park District engaging its citizens in leisure. Whereas in the past it was just accepted, and maybe also utilitarian -- just getting kids tired, getting kids out of the way. Maybe that also had something to do with crime and society, why we have been pushed so far indoors, so that now we have to try really hard to bring people outdoors, and also to relax and play.



*At first, folks wanted us to take a van around and outfit this van for kids to come in and make music. But due to many concerns, including sound and not to mention how hot it is, that was an impossible task. So, the first summer we just worked in fieldhouses and with air conditioning.*

*We weren't working with the perfect technology from the beginning. We were working with two computers that the Art Institute provided and a printer that the Park District provided. We would print out CD labels because in the beginning, the kids would also design their own CD covers. It was a whole production -- you design the CD cover, have your picture taken, have that printed on the CD, make a song, get it burned on to a CD, and you take that CD home at the end of the day. We'd work with a group in the morning, a group in the afternoon, and then we'd have like 40 CDs to burn at the end of the day before we left the park. And I was just one person, the only adult.*

*Then I worked the summer of 2007 by myself in therapeutic recreation programs. I did 27 that summer and I rode my bike to two-thirds of them with a kiddie trailer on the back. Speakers, monitors, MIDI controllers, mic stands, everything I need in the trailer, this mobile studio. Then in the summer of 2008, I worked with Dorian, who does sound and is also a violin player. It was the year Obama was being elected, and part of what we're doing was just interviewing kids on the presidential election. We'd have them interview themselves, pass a recorder around, one kid interview the next. It was a beautiful summer, we got a lot of gold stuff. Then in 2009, we started making movies. That was the first year that we showed kids their music videos at the Gene Siskel Film Center. That was bonkers. We did that in 2009, 2010, and 2011. It always brought tears to my eyes at the end. The theater sat 200 kids and if we had 400 kids, we would do two dates and we'd split them up. You'd have all these kids going nuts over their videos.*

*In 2010, we got Ed as part-time help. Ed brought in a lot of rhythm. I was used to how there wouldn't be any drums in a lot of stuff we'd do early on. It'd be like kids banging on the table, maybe some beatbox, but no MIDI drums, no drum samples. But when Ed came along, it got really musical, away from my background as a sound artist without rhythm. It was just awesome because instead of having to teach someone, it was nice to have someone around all year round, and we went through a lot of ideas together.*

*And in the DVD era, when we were making music videos, I remember one summer in 2011. We stayed up in the skyscraper downtown burning five copies of a DVD at a time. Then finally we got a DVD burner. We just stayed up all night, four of us, burning DVDs and writing on them -- like 200, it was just ridiculous. And then I'd be burning them at home. The summer before, I was burning a DVD to show to everybody at the theater like 15 minutes before the all these kids are supposed to arrive downtown. On my bike, from Logan Square, bookin it! We put a lot of pressure on ourselves early on.*

*Also, when Ed came along, we really pushed the idea of working outside. It was really important for us to make sure that people were in a leisure situation, not a classroom situation. The outdoors is so important, especially when you exist in buildings for your whole life. It's important for our subliminal biological learning. And it would counteract any of the negative effects any other adults were having on them. There'd be summers where kids would be complaining that they weren't outside enough, so it was great to get outside with it. From then on, sessions have been outside under a tree, unless there's a heat advisory or the weather just doesn't allow it. I'm glad we never tried to print CDs outside, or burn CDs outside. It's nice that the cloud storage revolution came along and we could move away from CDs.*

*It's also nice to be some kids' first positive experience of themselves on the internet. I would send the kids' camp counselors a link and they could figure out our SoundCloud, or where the kids' video is on YouTube, and now you'd have this thing that you could be proud of and show people.*



## **FAST FORWARD → →**

*Since then, Inferno has functioned like a hybrid residency/summer job for local artists, musicians and documentarians to get trained and go collaborate with people in the parks. We still visit at least 50 day camps in the summer (ages 9-12) and over 20 special recreation groups (all ages). In the other seasons, we now also put on a teen media creators series, the Sound Re:Creation workshops, Chicago Park District staff training sessions, host a creative dinner series, a Night Out in the Parks participatory music series, and scores of other special events and collaborations with local artists and organizations year-round.*

# PHILOSOPHY/MANIFESTO

(taken from conversations between Jayve Montgomery and Sean Heaney)

## **Producers instead of consumers:**

Initially, Inferno was about bridging the digital divide, and making sure that the kids from underserved communities know what it's like to be a producer, to have a chance to be a producer. So that they're not just consumers beholden to whatever is said to them through advertisement, music, and other media. We aim to create producers of digital content, rather than passive consumers, through active listening, discussion, creative experimentation, and collaboration. We are creators and informal educators who promote self-education as an empowering, lifelong and life-changing skill for all people.

## **Dispelling the myth of talent:**

*(in conversation): It's definitely from the fact that I (Jayve) have been an adult learner of music. I was frustrated with the instruction side of music. I could hardly ever find "the one" that the teacher was talking about. It took me until like 28 [years old], to find "the one" by myself. It comes from me leaving instruments behind and finding them again myself as an adult. And realizing that with your own efforts and a little bit of supportive community, you can do this thing.*

*I'm pretty adamant that we all have music in us, and I don't know if that's from just being in Chicago as a musician and seeing how much all forms of sound are okay in so many different kinds of music, especially improvised music. I would bring all kinds of instruments. So the propensity for curiosity in sound in Chicago led me to truly believe that anybody can make music. "If you can make a sound, you can make music" -- is essentially how my philosophy developed. So when I would get kids who'd say, "Oh, I don't do that" or "I can't do that," I'd say, "Yeah, you can." If you get a bully laughing at somebody and then that person is embarrassed and they stop, it was like I was that kid that might have been bullied. So it's like "no," you turn to the bully, and say: "Look, this is a laboratory of experiment. What you think is funny is not, because we're actually experimenting here. So anything he's got, anything she's got, is what we're looking for."*

*The idea that somebody is born with talent is false. It takes actual work to make people think that you have talent. It is not what the unconfident think it is. It's literally a choice you make every day to be better at something. So that's what we're trying to dispel -- this idea of "talent".*



### **Creative democracy / Democratically creative:**

(in conversation): *Technology-wise, when we were doing linear recording, we were still loop-based. But when you start diving into loops, you start to realize that it's a circle and how important the circle is. And then you start to philosophize with kids when you get to a park. At the beginning of a session, just to get them thinking about how you loop, I'd say "Where a circle start? Where does a circle stop?" It's the same place -- wherever you want it to. There are several answers.*

*Once we get into really realizing that the loop is our most accessible entryway into engaging with a bunch of youth or participants at the same time, in a small amount of time, you find out that what you're doing is creating this democratic circle, you're creating this overdub of democracy. What we do is we start with one person making some sounds, whether that's humming a melody, or making a beat with the mouse, or banging on a table or perhaps making a MIDI pattern with some sampled drums. And then having the next participant add on to that. And then the next one add on to that. And then you might reverse it, and have somebody sing on top of that. And then you might drop the octave, and reverse it back and have somebody say something slow so that when you speed it back up to normal, it has that "Kanye sample" voice effect. Then you get this thing that has everybody's voice in it. And you can chop that up into sample parts and have the next kid who really really really really didn't want to put a sound in there, bang out a pattern to it. Now we have a beat that everybody has been involved with. And we're going to take the next 20 minutes to write on it. I didn't come in and say, "Okay, I need you to write about this prompt to this music I'm providing you." I've just been engaging you ever since the beginning, and just showing or helping you do your thing. It's beautiful. It's such a metaphor of democracy. You can't be louder than the people in the loop, everybody has to be heard. Everybody needs to be heard -- that's essentially the standard. I just want to know that people in the community are talking and listening and same time.*

*It comes from being someone who stands for this country being for everyone. It's written there and we should take every opportunity to make everyone realize that it's for everyone. Through just the practice of writing I started to realize, when I would get some grumpy youth, I'd say, "You know how this country started? With a letter written in the summertime. That's how you make nations. Please write to this beat." It comes from involving ourselves too. Instead of having kids write and we weren't writing, it was like, "No, I'm going to write a fresh verse, and I'm going to put it on your song to show you I'm not afraid of this either. I'm gonna do exactly what you're doing."*

### **Informal Education:**

We believe that much of the most impactful education comes about in free informal leisure settings. Parks and outdoor public spaces provide venues that help to level the playing field and create an energy that is approachable and fun. In addition, they aid in demystifying the production process, and making it more accessible. Furthermore, the tools and techniques found through experimenting and improvising in these spaces open up and consistently augment the creative process from start to finish.

### Adaptability Note:

Many of these activities were conceived through the tools we had within our reach at the time, like a laptop with Ableton and a mic, or iPads with a few apps. They are ways to connect with and interact with your environment, objects and each other, as well as create media with recording tools. In addition, you'll find notes in many recipes on how to adapt the activities in different ways. But we encourage everyone who uses this book to get creative and build out these activities in whatever ways work for you and your group. That could mean using different tools (Audacity is an excellent free recording app (or DAW) or adding new ones -- cell phones alone provide a ton of tools to build digital media activities. Or that could mean using "outdated" technology or none at all! We simply urge you to use the ideas and recipes presented here as a springboard for your own crew's creative, collaborative, experimental and play-oriented growth.

### Where you can find us online:



[infernocpd.com](http://infernocpd.com) (for updates and digital version of this booklet)



[infernostudiocpd](http://infernostudiocpd)



[CPDIMRS](https://www.youtube.com/CPDIMRS)



[@infernocpd](https://www.instagram.com/infernocpd)



[InfernoMobileRecordingStudio](https://www.facebook.com/InfernoMobileRecordingStudio)



[cpd.imrs@gmail.com](mailto:cpd.imrs@gmail.com)



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# **TECH·FULL MEALS**

*(with laptop, iPad, field recorder, etc)*

# COLLABORATING THROUGH ABLETON

*Participants will be able to: Collaboratively produce a piece of music that showcases a loop-based beat made from field recording, beat-boxing, and other samples provided by instructor, as well as their recorded lyrics about their own experiences.*

*Themes: Collaborative documentation, reality-based lyric writing, audio manipulation, looping, beat making. Age of participants: 9 and up*

*(contributed by Ed Bornstein, Inferno summer residency)*

**Cook time:** 1-2 hours

## **Ingredients:**

- Participants
- Macbook with Ableton Live
- 2 channel audio interface, stereo audio cable and usb cable
- Mic, cable
- Midi controller (keyboard, pads, etc.)
- Small speaker (roland cube works great)
- Folding table that instructor/participants can stand at
- Paper/pens
- Extension cord

## **Learning Goals:**

- Active Listening
  - Self-inquisition
  - Tolerance
  - Basics of song structure/composition
  - The idea that you can make a song with people about those people, to serve as a document of the time and place and people it was created by.
- 
- Pass the mic, adding sound layers to a loop.
  - Playback, do this again. Maybe a third time.
  - From there, start to add other samples or synthetic sounds to the loop, opening up the usage of a MIDI controller to the group
  - Build parts to the song together, pointing to the timeline and explaining what each clip is doing.

- Agree that the beat is ready to write lyrics to.
- Pass out pens and paper
- Challenge people to write about a group-picked topic, or autobiographically.
- Record verses, talk through words, phrases, or sentences that are problematic to the theme or reality.
- Playback the whole song to the group. Export and provide a link for everyone to download.

### Guiding Questions:

- *What is a loop?*
- *What is a beat?*
- *What is a melody?*
- *What is a sample?*
- *What can you write about yourself?*
- *What can you write about what you see/hear/taste/touch/feel around you?*
- *What do you hope for the future?*

## MIX IT UP!

Focus on just looping or beatmaking depending on the tech, ability, and age.

Works great indoors and outdoors, though outdoors under a shade tree has yielded fantastic results, because there is something very natural about making music with people this way.

If you don't have the ability to loop but have an audio recorder, you could try to record people making a beat and singing/rapping/speaking in real time as a performance. You could also record stories, poems, raps, just using an audio recorder, paper and pencils. It is recommended that you require time to write for participants. A recording session can go haywire very quickly when someone is allowed to speak off the cuff and says something inappropriate. Writing gives people the time to think about what they really want to say, and if they actually write something inappropriate, then you as the instructor can ask questions about why they wrote what they wrote.

Website/Resources: [soundcloud.com/infernostudiocpd](https://soundcloud.com/infernostudiocpd)



# ELECTRO-ACOUSTIC IMPROVISATION W/GROUPS

*Make original music with electric and acoustic instruments.*

*(contributed by Johanna Brock, Inferno summer residency)*

**Cook Time:** 2hrs

## **Ingredients:**

Participants, microphone, audio interface, computer, midi controller, digital audio workstation, speaker, headphones, table, power source, pencil and paper.



0. Making music is fun and easy. Set up all your equipment on a table that's got one side against a wall or tree. Keep the most fragile equipment like the microphone and computer closer to the wall and the speaker, midi controller, and pencil and paper away from the wall. Open a new session in your DAW and give it a name. **SAVE OFTEN.** Create a midi track with any drum rack you like.

1. Before you let the young composers get to work, show them that the midi controller makes sound when hit. It's a good thing to hit the midi controller! However, the microphone is not a good thing to hit and it will break. Also show them that if we get too close to the speaker with the microphone we'll get some feedback (for better or worse).

*How to get started? There's no wrong way to begin.*

## **Ask participants questions:**

- 2.
- Does anyone play any musical instruments?
  - Does anyone know how to beatbox? Does anyone sing?
  - What kind of music do you like?
  - What instruments do you think should be in our song?
  - Does anyone write- stories or poetry? We could use your help when it comes to writing lyrics!

3. Help the participants make a drum beat and set the tempo. If you want to use the midi controller right away, ask for 1 volunteer. Their job is to find 2 sounds that they want to hear over and over again. When they've got it, set the metronome to their tempo and record it. Voila! You've begun your first song. If necessary adjust the participant's midi to fit with the metronome. Repeat this by overdubbing or by using a new midi instrument. Continue adding rhythmic sounds until you're ready to add other instrument sounds. **SAVE OFTEN!** *Pro tip: if using Ableton, name your "scene" the bpm speed so if someone wants to change the bpm you'll know where you started. Also, sometimes kids just want to hit all the buttons, which is ok! But maybe you don't want another pointalistic track. Asking them to find 2-4 sounds they want to hear over and over again can help them create a melodic line.*

4. For an acoustic start, use the same guidelines as above. Ask for 1 volunter to make sound. Weather it's beatboxing, singing, or playing a beat, listen to their sound before you record. Then set your tempo and record it. Simple is best to start because we're going to add lots of layers.

5. Now you're ready to record with the microphone. To help participants get motivated to write, ask "Who's going to help us out with some beautiful words?" If you have examples, show them previously written lyrics. Some people will write really short phrases and think "I'm done!" but the goal is to write a lot. The more you write the more you'll have to record.

## SILLY TRACKS ARE OK!

Rhyming tracks and non-rhyming tracks- both ok. Talking about your day and your life is GREAT. Other people will relate and will feel excited to connect with our music. The general rule is that if you want to record on the microphone you need to write it down first (you can help them write ideas down). Use your judgement to limit microphone shenanigans. No-go lyrics typically include excessive bragging, putting other people down, or talking about stuff you don't have. This is a group project and our goal is to share something from the real YOU.

6. While the composers are writing you can arrange the sounds into a song (**SAVE OFTEN!**). Let the track play in the background while you walk around and help them figure out lyrics. If the participants feel shy, we can ask someone else to record their words for them. We can ask all the others to turn away or we can put the music on headphones so only they can hear it. You can even say their lyrics for them. Sometimes the lyrics are so good that a lot of people are going to want to say them. Sometimes everyone's too scared to write lyrics so you only have 2 or 3 phrases. Both are ok and it's ok to say something someone else wrote.

7. Maybe someone wants to sing, which is excellent. They can sing over the beat or sing the lyrics they wrote. If they're having trouble getting started, you can do a simple call and response. Sing 2 notes and they reply, sing 2 more and they reply, then sing all four and they reply. Keep singing all four and make a circular motion with your hand to indicate they should keep it going. Press record and voila, you've got vocals.

8. Save your work and take a photo of the group who made this excellent song. Listen back to the track with the vocals. Give everyone a round of applause! Let everyone know where you're going to put the finished track online so they can download it. If you have extra time you can start again from any point in this process.

9. **THE SESSION IS OVER!** Now it's time to finish the track. Make any finishing touches to the arrangement you began with the young musicians. Add any effects or quantize anything you want. Export the track and upload it to your platform of choice (soundcloud for me). Upload the photo you took to make your track look great. Add a brief description and make sure to praise the participants. Add tags so others can find your music. Share on social media platforms, share 1 month later, share at the 1 year anniversary, share share share. **THE END!!**

## MIX IT UP!

If you meet with the musicians again, listen back to the track together. Ask them to describe what they heard- what happens in the song, what is the mood of the song, what kind of music is this (hip hop, rock, pop music, funny, scary, weird). Make a new track but start with melodic instruments instead of rhythmic ones. Make a new track but this time it's only drums- maybe it's faster or slower. Or only make loops with the microphone. Ask a writer to get deep into a subject so we can have really great lyrics.

If you don't have a lot of time, make your layers as described above. Encourage the attendees to write their lyrics and use your best judgement to determine if they're "microphone safe". Pick 2 sounds you like and ask them to play them over and over again. Sing 2 notes and have them sing them back. You can always have less layers and can always guide the participants so you can make a song in little time.



# SOUND AS OBJECT

*This field recording workshop explores hearing and its connection with vision and touch. Using field recordings and simple drawings, participants are encouraged to engage with art and their environment in new ways.*

*All skill levels. All ages.*

*(contributed by Daniel Tovar, Inferno Sound Re:Creation series)*

**Cook Time:** 2 hours; 3+ hours for complex variant

## **Ingredients:**

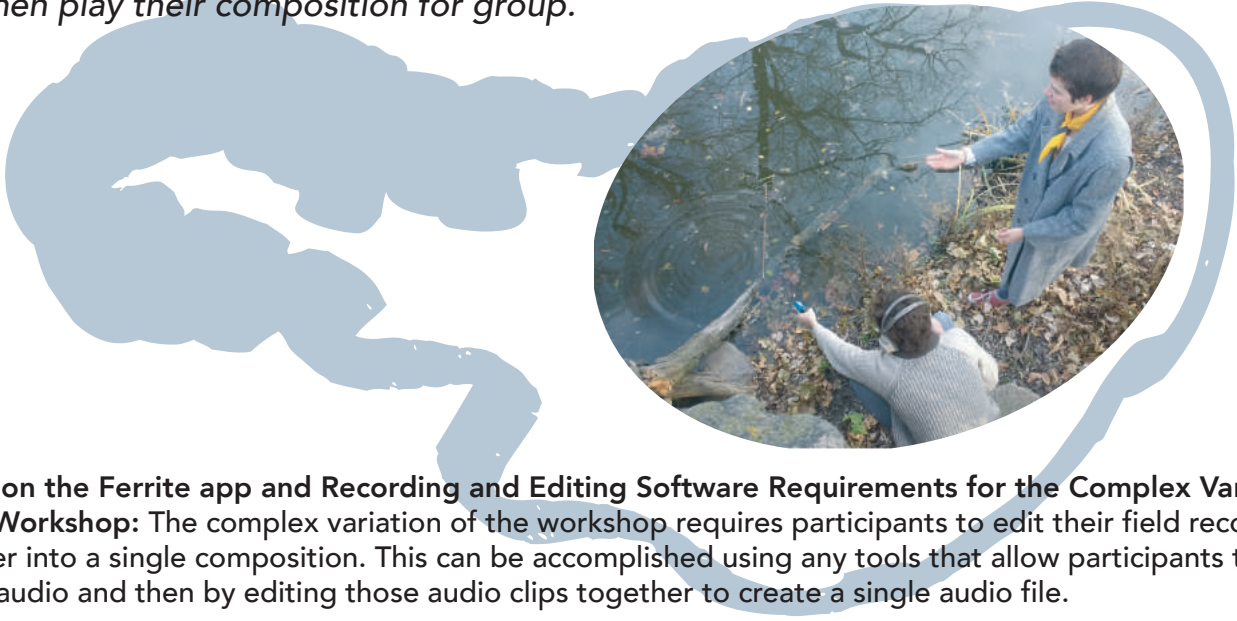
- Audio recorders (one per group. Audio recorders can include handheld recorders, phones, or tablets with audio recording software)
- *Complex variant: Devices to record and edit audio, one per group. Having an iPhone or iPad with the Ferrite app installed can accomplish both of these jobs. Other apps that are helpful for recording and editing audio include Loopy, Beatmaker, and Garageband. See the note on editing software below.*
- Headphones for monitoring recordings (one pair per participant—in our experience, participants are happy to bring their own)
- Headphone splitters (one per group), allowing several people to monitor at once (this is especially important in the complex variation so that groups can edit their audio together)
- Large sheets of paper (one per group. 11x17" or sheets cut from a roll of butcher paper)
- Drawing materials (large Crayola markers work well)
- 1 PA System
- 1 Easel

- 1. Create Groups** — Participants split into groups of 2-5
- 2. Draw Graphic Score** — Group members collaborate on making simple drawings composed of lines, shapes, and/or different textures.
- 3. Make Recordings** — Groups head out into surrounding environment to record sounds corresponding to each element (line, shape, or texture) of their graphic score.
- 4. Recording Selection** — After recording, groups reconvene to decide which of their captured sounds corresponds to which shape on their graphic score.

*(Complex variant: Create Composition — Using a multitrack wave editor like the Ferrite app and their graphic score, groups compose field recordings into a single sound composition. Use the software to layer sounds, crossfade between them, and create interesting juxtapositions.)*

5. **Present Sounds and Scores** — Place the graphic score on the easel and have each group present their graphic score. The presenting group goes through each element of the score, plays the shape's corresponding sound, and explains the connection between the shape and sound.

*Complex variant: Present Compositions and Scores* — Groups display graphic score, explain what sounds they chose to correspond to each element in the score, and then play their composition for group.



**\* Note on the Ferrite app and Recording and Editing Software Requirements for the Complex Variation of the Workshop:** The complex variation of the workshop requires participants to edit their field recordings together into a single composition. This can be accomplished using any tools that allow participants to record audio and then by editing those audio clips together to create a single audio file.

If you use a computer to edit the audio, use audio editing software such as Ableton, ProTools, Cubase, Garageband, Logic, or Fruity Loops. Use a field recorder like the Zoom H4N to capture the audio. Open your audio editing software on your computer and transfer your field recordings into the project. **SAVE OFTEN.** Arrange the audio files to your liking, export your track, and you're done.

If you are using a phone or tablet, you can both record and edit on the same device. The software available to edit audio is usually different from iOS to Android platforms. For iOS devices, we recommend the app Ferrite for this activity, as well as Beatmaker and Garageband. **We STRONGLY recommend that you try these applications out prior to leading this workshop.**

## MIX IT UP!

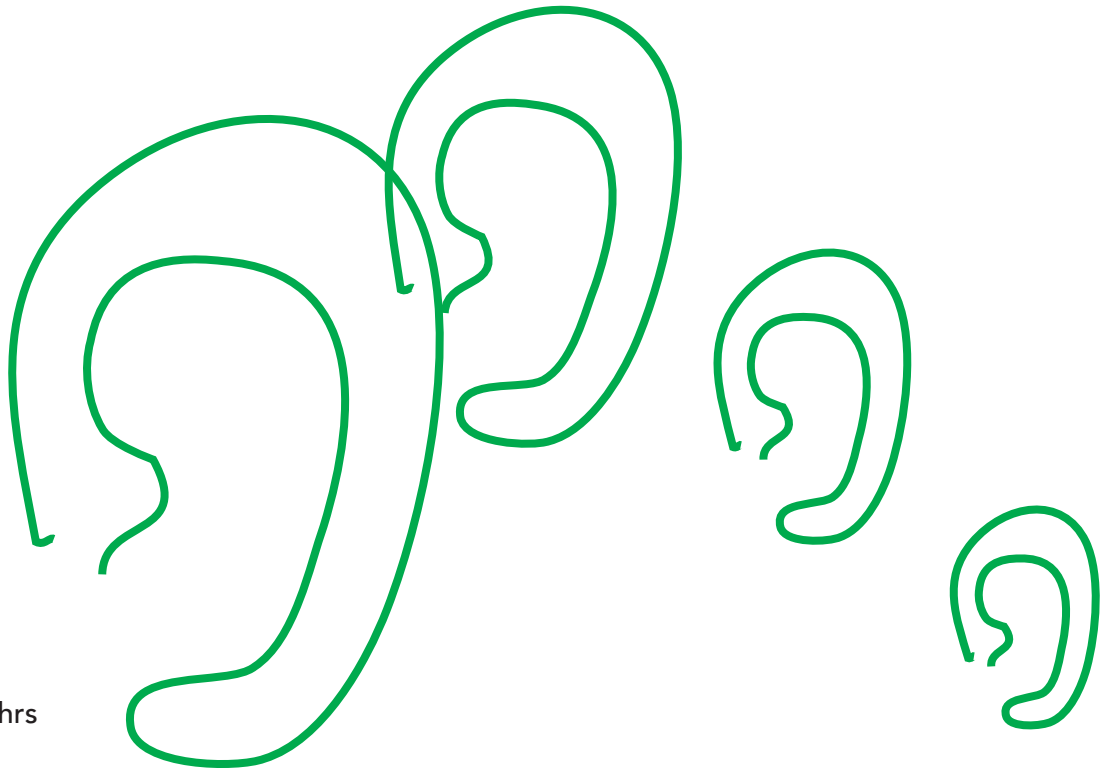
The simple version of this workshop can be done with people of all ages, so long as children are accompanied by an adult. Editing audio can be tedious, therefore the complex variation is recommended for children 10 and up. Young participants should be invited to watch the editing process, to help choose the sounds they like, and even to edit the audio with help from an adult.

Series of sessions: the complex variation of the workshop can be expanded into a series of 2 2-hour sessions. During the first session, participants can be organized into groups, draw graphic scores, and do recordings. During the second session, groups can edit their recordings into a single composition and then each group can present and discussion their drawing and sound composition.

# THE SHAPE OF SOUNDS

A group activity involving breath, listening, looping, creating graphic scores, and conducting

(contributed by Ben Lamar Gay, used with therapeutic recreation participants, Inferno summer residency)



**Cook Time:** 1-2 hrs

**Ingredients:**

participants, 1-2 iPads, Sketchbook Pro app, Loopy app, or any type of looping equipment/software, any simple acoustic or electronic instruments available

(in conversation) *First off, the intro is deep breathing, and listening. So try to have the students be close to each other. Or even if they're not close, have them deep breathe and ask each one to be able to hear the individual's deep breath first. Then extend that listening out to their environment, what's happening, and what sounds are happening. And then we talk about the sounds of the environment. Even someone's intake of air, how each individual breathes and you can hear their breath, that makes a great ensemble. When you hear the environment that surrounds the ensemble, that's what makes great music.*

After that, we should begin. In most of the activities, we create a loop, any type of loop. From any sound -- it can be from the environment or a particular individual, or pre-prepared or whatever. Have the ensemble listen to that sound and remind them that that sound is made from movement. So there's movement happening, and isolation (and all those other words). Then, you pass around the iPad and they describe the sound of their environment. Have them think about the sound that's happening in the room, maybe coming out of the speaker, or even influencing the environment with that sound. They pass around the iPad and have them draw a representation of the sound, just a two-second representation of the sound with their finger(s) on the iPad. Pass it around, everyone continues off of the last person. If it's a large group, they can do that once, a smaller group, we can pass it around a couple of times.

After that's done, that becomes the graphic score of the music that the ensemble is going to do. Basically, that helps them create their own representation of something, or a guide for the next group or future ensembles. Now we have a graphic score, and once we have that score, that's a way of having them read representations of sound. That representation of sound usually starts off with a line, and then everything we do for the rest of that lesson is everyone's interpretation of that graphic score that the ensemble created. Let them know that interpretations are open. For example, if the line goes low for a section of the of the music-making, make low sounds, whatever that means to a particular person. Or if the line goes high, or if there's twirl, or any shape that the ensemble creates. The whole idea is letting them know that sound is from movement. There's a lot of shapes. If we're outside in a park, that shape of that sound is going to be different than if we're in a room where the sound is bouncing off the walls. Whatever structure we're in, that's what shapes the sound.

Then you get to the visual aspects of sound. You're basically left with a painting/graphic score that could be left for future ensembles. This happens with everything -- books, words are representations of sound, our names -- our parents give us a sound when we're born. My sound is Benjamin Lamar Gay, and your sound is Sean. Everything we do, we always represent sounds with all these written words.

One cool material we can use with the iPad, is Sketchbook Pro. You have to record it as a live action (or time lapse?) video, it's one of the options. So then once you're done and you press play, it becomes animated. So the kids can get into some animation, there are a couple of apps. There's even an animation app, where you can basically do the same concept. The kids are doing photography, graphic scores, paintings, digital painting, animation. All these things have to do with sound. Sound is in the center of all that.

Even with some individuals, you can have them become the composer, and step up in front of the group to create a score, and conduct that score that they created. Here's another option from the big group creating a score together, and if you've got time (you're always going to improvise ways to keep them engaged). Someone may have a totally different approach, so give them that space to do it, and become the conductor. And then the facilitator(s) themselves will join the ensemble and help support the young



composer or painter or animator. So those are the steps, and the gear, and the concept behind it.

For creating that loop or drone, the easiest thing at that I like to use is Loopy (iPad/iPhone app). That can be pre-recorded or you can just do it on the spot. I'm always thinking about the environment of a park. You might hear a certain bird and try to capture it, or particular student may have an amazing sound. I think the easiest way to capture that is with Loopy HD. And with two iPads, if available -- one for the drawings and one for sounds. But Loopy runs in the background if you only have one iPad. But basically any other instrument(s) can be used for this, and that's up to the to the facilitator's discretion.

## MIX IT UP!

(in conversation) Just to understand music education and reading music, there's this, let's just call it a vibe. There's this traditional thinking in music someone that can read is better than someone that can't. It almost becomes this class thing. People would tell me, "if you can't read, then you can't make music." And as far as my experience goes, I continued to learn that these are just symbols. And the system that that we use now, is a great system that works. But there are other systems out there. It's just a representation of sound. So the thing that's important to let everyone (especially young minds, but anyone) learn or be reminded is that if you can't understand this one system, that's not the end of it. Sound is bigger than just a symbol. Sometimes these symbols can direct us in a great way, but we can create our own symbols to lead us through this world of sound. Or to represent this thing that we can't even see. There's no one way, because you can't see or touch music or sound. There's ways that people put representations of seeing it in different places, so I think that's powerful.

These things that they can create on these iPads, we can literally give them to any type of ensemble. As long as these children believe in it, they can direct any type of ensemble. From a choir to a string quartet, music will be made. One thing I always wanted to do is, if we have all these these scores of the different parts of the city, go to a neighborhood and paint a mural that is nothing but a big graphic score, from a combination of all these kids. And then, have a ceremony where you have an ensemble there, and alright, here we go. In Englewood or something. All these neighborhoods would have different graphic scores. Every neighborhood should have a representation of sound. People can decide, anyone. You'd have the instructions, and anyone can go up there and record their version of it.

# QUEERNESS AND MONSTROSITY

## AN AUDIO HAUNTED HOUSE

*This workshop is an exploration of the way queer people (particularly trans women) have been stereotyped as monsters and the ways that identity can be subverted or rejected through art making. This workshop includes a discussion of the theme over dinner followed by activities to further explore the topic.*

*(contributed by Jill Lloyd Flanagan, Inferno Presage Dinner series)*

**Cook Time:** 2hrs

### **Ingredients:**

- Monster makeup kits: Fantasy FX Mehron Makeup tubes, Liquid Latex, cut up monster mask/ cardboards, bedraggled wigs, tooth blackout, cotton balls, etc. Cheap makeup from a beauty supply store. Prior to the event, experiment with the liquid latex so you're comfortable helping participants use it.
- iPads hooked up with Loopy software or any simple looping software could do. Also various noise-making equipment, mics, synths, toys, small amplifiers, noisy objects, etc.

1. Participants enter the room and there are refreshments, food, and a discussion about the way trans and queer people are treated as monstrous in our society. Discuss the ways that queer people have made art to respond to this treatment and the pitfalls of such (cultural appropriation, able bodied people imitating disabled people, facially normative people contributing to the stigma of facially divergent people).

2. After about an hour of this, participants are instructed to go to the different stations and make themselves over as monsters. Assist the participants in using the liquid latex- make sure everyone's hair is out of their face and tightly bound up. When the participants have finished making themselves up, people are paired into groups of three and invited to collaborate on different tracks of haunted house sounds created on loopy. Each group then individually plays there sounds to the rest of the attendees and after that all of the sounds are played at once while the lights are turned off and all the participants act out their fantasies of being a monster.

## MIX IT UP!

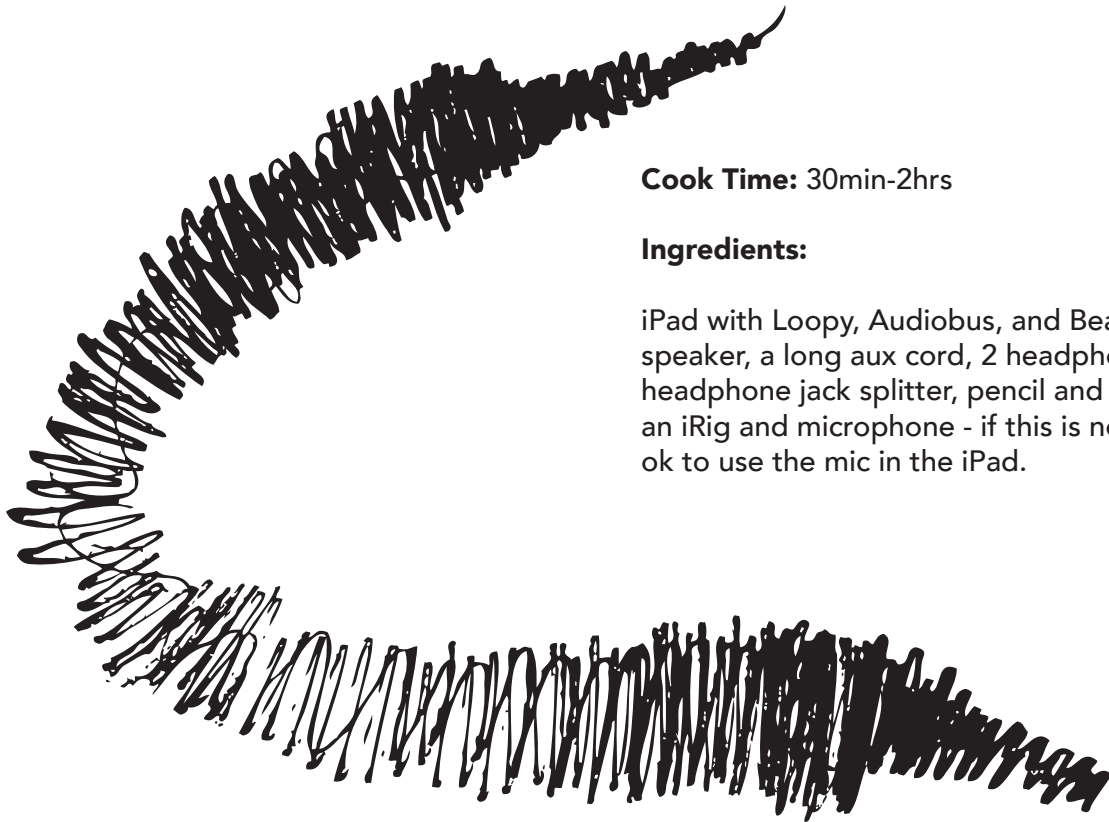
This activity can be adapted into a series about marginalized groups that have been treated as monstrosities by society. Particularly it would be great to get a facially-different person to lead this workshop and think about the huge problems they face. If you know activists or artists whose work addresses the subjects of being vilified, invite them to lead or co-lead this workshop to share their artistic strategies on coping with this stigmatisation. It would be important to invite someone from the disability community to talk about their artistic coping strategies. Many queer people have a lot in common with the ways in which disabled people are stigmatized in society. The final sound and art making activity can be adjusted with their guidance.

It seems that right now there is a ideological shift against people making transgressive type art. Particularly, in current queer communities, there is a feeling that art should be very positive in it's portrayals of queer people. Maybe another interesting discussion could be whether the idea of using art to transgress social norms is still relevant to the newer generation of art makers.

# IPAD MUSIC STUDIO

Make a song using applications on the iPad

(contributed by Johanna Brock, Inferno summer residency)



**Cook Time:** 30min-2hrs

**Ingredients:**

iPad with Loopy, Audiobus, and Beatmaker; a speaker, a long aux cord, 2 headphones, a headphone jack splitter, pencil and paper. Optional: an iRig and microphone - if this is not available it's ok to use the mic in the iPad.

You can use many different applications to record sound. For this activity I'll use Loopy, Audiobus, and Beatmaker. Audiobus is pretty straight forward, but before leading this workshop **TRY OUT LOOPY**. Beatmaker you should try out too, although we'll use it primarily for its instruments. Other recommended apps include Soundprisim, Vio Vocoder, Korg Kaossilator, Babyscratch, DM1, Funkbox, Fruity loops, VidRhythm, etc.

Before the students arrive set up your speaker, connect the iPad, and set up the headphones with the splitter (we'll use them later). Keep the iPad away from the speaker to avoid feedback. Start Audiobus and set Loopy as your "Output." Save and name the new session in Loopy. **SAVE OFTEN**. In Loopy go to Settings -> Clock Sync and make sure MIDI Sync is "OFF" (we're going to use Loopy to set our tempo). Go back to Audiobus and for "Input" select "System Audio Input" and "Beatmaker". When Beatmaker automatically opens, select Drums as your 1st instrument and choose any drum pad you like. You can add other Beatmaker instruments right now by clicking "Home" and then "+ instr."



Once the students arrive, ask them some questions about music:

*What kind of music do they like? Does anyone play music or sing?*

*Does anyone write their own music?*

*What kind of sounds or instruments do you want in our song?*

*Does anyone write poetry? We could use your help when it's time to write lyrics!*

*Does anyone beatbox?*

Thank everyone for answering your questions and explain that you're here to help them make a song with the iPad. We're going to use apps on the iPad that can make drum, guitar, violin, flute, bass, synthesizer, and other sounds. We'll also use the iPad to record sounds like beatboxing or singing. The iPad can be hit to make drum sounds! But the microphone of the iPad will break if we hit it, so we're going to try not to hit the microphone. Also demonstrate that we'll get feedback when the microphone gets too close to the speaker, for better or worse.

**Let's begin!**

Start by setting the beat (percussive sounds are useful). Ask for one volunteer to get started by beatboxing, singing, or clapping. Ask them to make a simple sound like "Boom Cha" or "Ts ti-ka". Ask them to keep making the sound over and over again. Make a circle with your hand in the air to indicate they should keep going. Record the 1st sound in Loopy. Voila, you're on your way! Let's everyone give them a round of applause. Ask for another volunteer to make a sound with their mouth or environment. Keep recording the acoustic sounds in Loopy. If the participants are shy you can ask everyone to clap together. Make a circular motion with your hand to indicate they should keep going and record the sound with Loopy. **SAVE OFTEN.**

Keep recording sounds in Loopy. At this point someone may want to use a Beatmaker instrument. In Audiobus, eject the "System Audio Input" so you won't record sounds from the mic and Beatmaker together. Now, let the students use the drum pads in Beatmaker. One finger at a time helps the iPad function (but once they get the hang of it it's ok to use several fingers). Encourage them to pick 2 sounds they want to hear over and over again. If they want to use different sounds it's easy to switch the sound bank in Beatmaker. Let them try out Beatmaker and once they find a sound they like, record it into Loopy by using the Audiobus sidebar.

Listen to the beat you've made and cycle through the loops you've recorded to make the song more interesting. **SAVE OFTEN.** Ask the participants if they think the song would sound good with lyrics. Encourage your lyricists to write a lot so that we have a lot to record. No-go lyrics typically include putting other people down, excessive bragging (it's a group effort), and talking about stuff you don't have. That's not what we're here to do today- we want to hear about YOU! Let the beat play in the background and help the participants write lyrics. Record the lyrics in Loopy. If necessary when recording lyrics use headphones to avoid feedback and to make anyone feel comfortable.

Congratulations, you made a cool song! Take a photo of the group who made this track. **SAVE OFTEN.** Let everyone know where they'll be able to download the finished track. At the end of this workshop or back at home, set Loopy to record and play back the loops you recorded. Upload the track to the platform of your choice (I use Soundcloud). Use the photo you took to make the track look great. Share the finished link with the participants, share on social media, share share share. You're done!



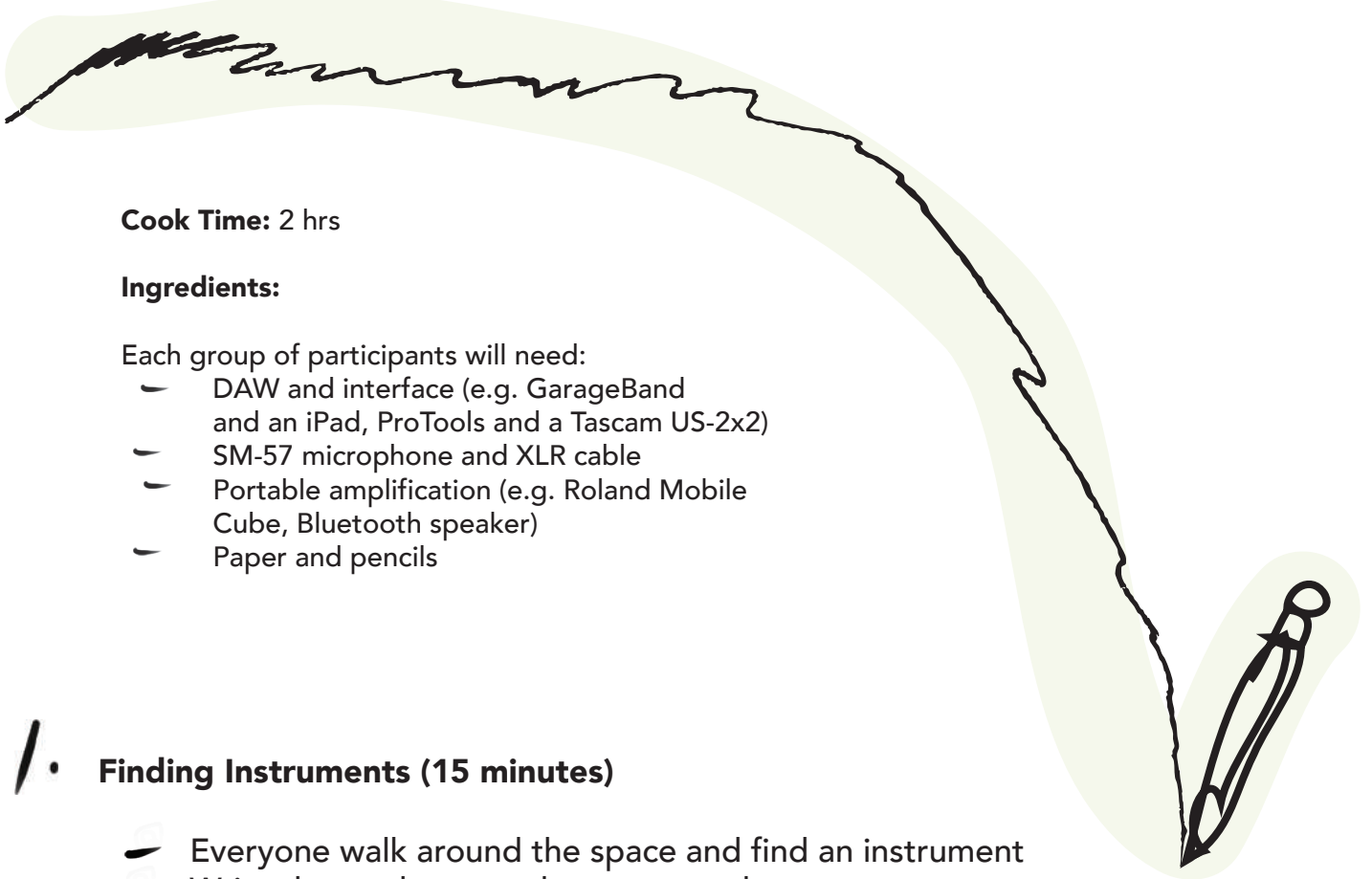
## MIX IT UP!

Once you and the participants are familiar with the different apps on the iPad, you can record a track using only Beatmaker or Loopy. Also there are lots of great sounds in the Kaossilator and it's a really fun app to use. Another great app is Vio Vocoder- the vocoder sound is really fun. I strongly recommend trying out all these app before teaching with them. A fun app for making music videos is VidRhythm. However VidRhythm does not let you make your own music and is best only for when you have very little time to work with a group. There are tons of great apps out there you can use to make music, so feel free to explore!

# FOUND SOUNDSCAPE

Using only the found "instruments" surrounding the activity site, compose a sound piece with multitrack recording software in a DAW.

(contributed by Natalie Chami & Whitney Johnson, Inferno Presage Dinner series)



**Cook Time:** 2 hrs

## Ingredients:

Each group of participants will need:

- DAW and interface (e.g. GarageBand and an iPad, ProTools and a Tascam US-2x2)
- SM-57 microphone and XLR cable
- Portable amplification (e.g. Roland Mobile Cube, Bluetooth speaker)
- Paper and pencils

## 1. Finding Instruments (15 minutes)

- Everyone walk around the space and find an instrument
- Write down what sounds you can make
- Write down what those sounds mean-- emotions, textures, roles. *How do you think about this sound? What instrument does it remind you of?*

eg: TAPPING A PENCIL = PERCUSSIVE *light*  
*rhythmic* SHARP/SHORT/ABRASIVE  
might sound like hitting a drumstick at the edge of a snare

- Each person finds 3 different "instruments"

## 2. Demonstrating Instruments (15 minutes)

- Get together with a group (depends on how many ppl)
- Share your instruments
- With your group, pick 1 instrument per person. Think of how they can work together or not work together (contrast vs the same)

## 3. Collaborative Found Soundscape (30 minutes)

- Hand out iPads
- Open up GarageBand

### Record:

- Top left, plus sign, click it, click "Create a new song"
- Hit "Audio Recorder" for instrument
- Turn metronome off (blue triangle icon on top right)
- Change view to arranger/multitracking view: top left, looks like squares/tetris and it should turn into a microphone icon when you click it.
- Press red circle to start recording. There will be a count in of 4 clicks before it starts recording. You'll see blue when it's recording.
- Play to listen back from the beginning
- Mute track- on the top right go to the icon with 3 lines that looks like sliders on a mixing board. Push Mute.
- Add new track- in arrangement view, in the bottom left corner push plus sign to add new track.
- Record all of your sound samples following these steps.

### Arrange:

- Solo back to listen to particular samples (unmute)
- Drag samples to position
- Duplicate sounds you want to hear looped
- Double tap a sample to copy it and paste it or loop it
- Make a soundscape/composition that is at least 20 seconds long
- *Go further: add effects, automate, mix*
- Give your piece a title

*Can you imagine the context for this soundscape?*

*Are there images or narratives to go along with it?*

*Moods?*

*What would a movie based on this soundscape look like?*



## 4. Listening Party (15 minutes)

- Each group play your piece
- Allow other groups to guess what instruments might have been used

## 5. Soundscape (15 minutes)

- Place your speaker in a part of the room and try playing your soundscape. *How does it interact with the other pieces?*
- Walk around with your cube. *What do you notice about the sound in the space?*
- With the speakers in place, walk around the room, experiencing the sound mix as you move from one zone to another.

## 6. Debrief

*How did it go? What challenges? What was fun/inspiring to you? What about this process felt "improvised"? What felt "composed"? How did resource constraints help or hinder your soundscape? (i.e. In what ways would it be better or worse with actual instruments?)*

## MIX IT UP!

This activity can be adapted to the technology you have at your disposal. Even if you only have two computers/iPads, you can have two teams create a sound piece and then place them in a room together, seeing how moving through the space "mixes" the two together into a soundscape. If you have a lot of technology at your disposal, it might be fun to use groups of two, each member recording several different found instruments. If you don't have access to much outside space (offering a wider variety of found instruments), voices and vocalization can be added to the recordings. Very young participants can be paired with older ones or those who are more familiar with recording technology. If this were built into a series of sessions, a new instrument might be added each day or week the piece is revisited. As more tracks are added, arranging and mixing can include more options while also becoming more challenging.

# ACTIVATING THE ENVIRONMENT / ENVIRON- MENTAL ENSEMBLE

*An indoor group activity involving vibration, the concept of contact mics, and live conducting*

*(contributed by Ben Lamar Gay, used with therapeutic recreation participants, Inferno summer residency)*

**Cook Time:** 30min - 2 hours

## **Ingredients:**

Participants, tables, iPad(s), Impaktor app, one speaker connected to each iPad, any simple instruments available (shakers, drums, voices, whatever you want), electronic instruments (like Novation Circuit, or small synths, rhythm pads)

*(in conversation) Sometimes we need indoor options, because sometimes you get in the flow when you're outside, and then when it rains, you're like, "OH NO!" because the environment has changed. The environment where we teach classes, it really changes everything. There need to be a few indoor options because it changes the vibe of the children. It's different because they want to go outside and if it's raining, you're like, "oh no," and you're all trapped in this small room.*

*So thinking about the tradition of elementary schools and high schools, just making beats on the table. But then I would have three tables, so three kids (on each table) can go at the same time. It's that same tradition, but having three people use a table at the same time, like in trios. The trios would activate the room by using Impaktor (iPad app) on these tables. You have to really set up Impaktor so there are certain sounds coming from each table.*



*The facilitators have to go in and really work with Impaktor because if you work with the stock sounds/settings, sometimes they can be crazy super sensitive. Have a soft thing underneath the iPad, something to really separate it or control it. Can be anything, even a towel. I would have three kids go on a table and activate the table. Because with Impaktor, it really picks the sound up from that mic in the iPad, so the whole room is activating it. Even though there are just the three kids, if someone says something in the back, that may trigger the mic. So these three kids become conductors again. If a laugh is captured by Impaktor, the person can control it and join in with the beating (on the table) and doing whatever. So I would have these improv sessions with everyone activating the table or whatever thing you want to put the iPad on, and I would use three iPads, or two iPads or even just one.*

*I really love recording, having it as a live thing, like a band. I mean it's no different from what we do (as professional musicians). I don't know why it seems so different (to some people). I guess if you really work with Impaktor and get these different weird sounds, and see how the kids' bodies react or the ensemble reacts to it. Just have them perform as trios or duets or solos. Then after that, you have these the three conductors activating the room, seeing how the sound in the room reacts differently from the sound outside, with iPads, Roland Cubes (speakers), and Impaktor.*

*Impaktor is one of these apps that are cool, but you gotta find a hip way to use it. Otherwise it'll just be like this cool thing to use, but that's so wild and uncontrollable. But the main thing is the facilitator being right around these kids and keep pressing record on these iPads. Either you do it, or the kid can do it, so it can loop. Then once these three things loop against each other, that's when you involve live playing and conducting with the orchestra or the rest of the ensemble.*

*Other instruments could be the shakers or drums, voices, any instruments, whatever is available. Have the things that are looping from the trio in the background now with the live conducting (ex. "OK, shakers come in here," etc), have them interact with the sounds coming from the iPad(s). If you have more than one, you can mix the sound just by using the volume knobs on the speakers. Like, "now take out this one, you fill in that space with the shakers."*

*With live conducting, you give them the downbeat, whatever that means to you, or when to start and when to end, and then you pass that role on to the participants. Give them a chance to choose which Impaktor to turn down. Especially with the Roland Cubes, you have delay and reverb. Tell them "OK, now trick it out! Anyone just turn knobs!" You don't even have to get that deep, "Just turn knobs!" even if they turn it off, or whatever happens. So it's all about that rotating, giving people the chance to supply that impact, literally, of the session to live the playing, whether it's voice, or instruments or anything. It could be a mic, some of the synths that we have, it could be a Novation Circuit, whatever. Those Roland Cubes have two inputs, so two pieces of gear can go in one speaker. If you have an iPad in one input, the Circuit in another, either way we will get sound out of them.*

*Just live conducting is important, it gets humans playing against what humans created on this computer, seeing how that whole electro-acoustic thing happens. Of course, the first step is always the same. In the beginning, listen to the environment, breathing, listen to each other breathe. Wow, if we talk about that intensity, "Listen, how does Sean breathe?" you might be across the room, and that's pretty deep. Because to hear Sean breathe, you're gonna have to hear Maria, Charlie, and everyone's breath just to try to focus on Sean on the opposite side of the room. I've been doing live conducting, just live playing against the loops a lot, and that's beautiful. With the live conducting, it's always good to have them start, and then end at the same time.*

## MIX IT UP!

*(in conversation) Ensemble playing and ensemble work -- there's a lot of soloists in the world, you know -- but ensemble work, it's so hard. I played with people that are great improvisers and soloists, but if you can't play as an ensemble, being solo doesn't mean shit. And that's what all that is supposed to be about, all those band classes, it's supposed to be about playing with each other. So I think that's important with Inferno. Just throwing everything on the computer is cool. But when you've got to react with your body and other instruments outside of the computer, and seeing how that relationship happens, that teaches people, "how are you gonna react? how are you gonna interact with this tool and these things that we have?" It has to do with learning how to be an ensemble and activating things together. I think Impaktor is perfect for that. Everyone has to improvise a philosophy about it, just being in contact with something. Talking about the contact mic, what contact is, what does contact mean, what does it mean to you, being in contact with oneself, each other. We all got our own ways to understand this world, as well the channels that help us get through it emotionally.*



# MIMICRY & CONVERSATIONS WITH YOUR ENVIRONMENT

The purpose of this workshop is to explore vocal mimicry of an environment. Using recording and mimicking, participants explore environmental sounds and the extent to which humans can mimic their surroundings. Ideally, people should leave this workshop with a greater appreciation of the sounds which surround us everyday, each with potential to convey feeling and character.

*(contributed by Jose Navarro, Inferno Sound Re:Creation series)*

**Cook Time:** 2hrs

**Ingredients:** (initially for a group of 10 people total)

- 3-4 field recorders with wind screens (1 per group of 3-4 people)
- 3-4 sets of headphones (1 per field recorder).
- 1 powered playback speaker (with power and audio cables), connected to laptop
- 1 laptop w/ audio editing software (optional)



0. Participants will be given a short description of the workshop with an emphasis on exploration and discovery.
1. Give participants a brief overview of how the field recorders work.
2. Break off into groups of two or three with one field recorder per group. Instruct the groups to explore the space, listening for sounds of interest. When they find a sound they like, they will record it and then record themselves duplicating or mimicking the sound using their voice. (10-30 min)

3. When recording is finished everyone will meet to review the recordings. Each sound will be played back to back with its mimicked counterpart. The sounds can be played back from the recording device or the facilitator can upload them to the laptop. This is an opportunity to hear each sound void of their physical origin. Discuss the character of each sound and whether or not the mimicked version maintained its character.

*"What are the most fundamental characteristics about the sound?"*

*"What characteristics could be removed from the sound without losing its 'character' or identifiability?"*

*"Does the mimicked version of the sound preserve the character of the original?"*

Playback should be an opportunity to experience sounds as sound objects and not as artifacts of objects, as well as being a time to hear and appreciate each other's work.

4. Ask everyone to pick 1 sound that they enjoyed mimicking. Then take 5-10 minutes and let each group prepare a presentation of their sounds in a post-recording performance. Groups are encouraged to hear their sound change through repetition and to creatively voice their sound- they can voice them one at a time or all together, they can use the sounds to converse with each other, they can form duos, they can create an action that they feel embodies their sound, the performance can be completely improvised, etc. For the presentation the facilitator can set a timer for 3 minutes as each group takes a turn presenting their sounds to the workshop. Bonus- end the session by having all participants perform their chosen sound for a 5 minute group improvisation.

## MIX IT UP!

The purpose of this workshop is to explore environmental sounds and the extent to which humans can mimic their surroundings. A secondary purpose for this workshop is to decontextualize environmental sounds and reduce them to their most fundamental yet recognizable forms via the human voice. This workshop could be expanded by introducing new spaces or new modes of interaction that would consequently expand the scope of sound material available. If you're out of time, the performance at the end can be skipped.

# DIY MUSIC VIDEOS

*Make your own Music Video to accompany your original music.*

*(contributed by Johanna Brock, Inferno summer residency)*

**Cook Time:** 90min-3hrs

## **Ingredients:**

Participants, music (preferably made by participants), paper or chalkboard, video camera, and audio player

**Post-production:** computer and video editing software, internet

Making a video to accompany your music is fun and easy. Your most important tools are an open mind and a song you know well.

1. Listen to the song with all participants and talk about what happens in the song: *What is the sequence of action in the song: what happens first, second, and last? What mood does this song evoke- creepy, funny, play, questing, hanging out, having fun? What do you imagine happening when you listen to this song- if the song tells a story, how can we tell this story with our surroundings? If the song doesn't tell a story, imagine your surroundings while you listen to it. What do you see? How can we translate these ideas into a music video using our surroundings? Do we want the whole group to do an action together?*

2. You're ready to go out and start recording your music video. Start at the beginning of the song- this will make editing later much easier. Play your song on an audio device (phone, iPad, stereo) while you record the different parts of the video. Let the creativity flow! You can record literal actions described by the lyrics (running, jumping, searching), or if your song is without lyrics you can do whatever the sound inspires you to do. Once the beginning and the middle are filmed, think about how you want to end your visual story- do you tie the last part back to the beginning, or do you hint to a new chapter that's to be continued? HINT: either way is cool.

3. It's time to put this collage together. This is the most time consuming part. You may have to do this after the kids are gone, and that's ok. It can be really helpful to have an adult do the editing for the participants so that they have an example of how their footage can fit together. If the young videographers have time to edit their own film, I recommend you start by editing together. Your guidance will be vital.

4. You'll want to take the SD card where the video is stored and put it into your computer. Open your video editing software and start a new project. **SAVE OFTEN.** Give your project a temporary name, upload the footage into the new project, and upload the music you recorded for the video. Starting with the first sequence, detach the audio from your video clip and delete it. Scan through the video with your pre-recorded music in the background and look for anything you want to keep. Find the beginning of what you like and insert a cut. Find the end of what you like and cut that. Delete the stuff you don't want. **SAVE OFTEN!**

5. Once you've gone through all the footage to find what you like, you can add special effects- slow motion, speed up, fades that help tell the story, etc. Make sure to add a cool "fade in" at the beginning and a nice "fade out" at the end (optional: add a title and credits). When in doubt, look at other music videos made by youth groups or the Inferno counselors, or think about what you've seen in music videos that you liked. ([youtube.com/user/CPDIMRS](https://www.youtube.com/user/CPDIMRS))

6. **YOU'RE ALMOST DONE!** Congratulations, you've courageously edited your footage and made your first music video! Export your video from the editing software to a video file. Log on to a video sharing platform (youtube, vimeo) and upload your video. This may take a while so make sure your computer is plugged in and stays connected to the internet if it goes into sleep mode. Create a brief description of your video, including praise for the participants who made it so great. If the song you're using is also available online, include a link to it in your video description. Share your video frequently- email the participants, put it up on social media, include a clip on instagram, share it after the 1 year anniversary, share share share. **THE END!**

## MIX IT UP!

Normally I recommend that an adult do the filming and the participants are the ones being filmed. However if the participants need extra involvement and can handle the equipment carefully, let them film a scene! Show them how it's done by filming 1 or 2 segments and then let them have a try.

If the filmmakers are having trouble thinking of what to do, no problem. During the brainstorming process, ask them to focus on what the mood of the song is and use your own imagination to jumpstart their creativity. Start filming any old beginning and suggest actions for them to try to recreate the sounds in the music. Clapping, tapping, playing imaginary instruments like violin, piano, guitar, or saxophone; dancing, standing and looking cool, jumping in slow motion, wearing a costume, laughing, looking into something and finding something unexpected, playing on a jungle gym, or anything they enjoy doing in their environment- all of this and more will make a great music video.



# TECH·LITE BITES

*(with simpler objects, our bodies, environments, cell phones, etc)*



# NATURE WALK / FOUND OBJECTS INTO INSTRUMENTS

*Creating music instruments from found objects allows us to learn more about how sound works on a physical level and complement exploring our natural environment. This activity encourages both imagination and practical design. It can also be adapted into a group bonding or personal reflection exercise.*

*In this activity participants will spend a short time exploring a natural area and finding objects, then coming up with creative ways to make sound with them, followed by a brief discussion.*

*(contributed by Aquil Charlton)*

**Cook Time:** 30-90 minutes

## **Ingredients:**

- Participants
- Handout: Resonance (next page)

Discuss sound, share Resonance hand out

Divide group into pairs or groups of 3

Groups explore the given area and look for objects that have the potential to make sound

Groups are encouraged to play with objects to find the range of possible sounds

Groups return and share the objects they found and the sounds they make

## MIX IT UP!

### **Group bonding exercise: "Ensembles"**

Participants explore in groups of 3 or more and work together to find objects and make sounds. After 15 minutes the groups all come together. Each group improvises sounds together for a 1 minute ensemble performance.

### **Personal reflection exercise:**

Give each participant the instruction to explore a natural area for 15 minutes and during this time find an object that they feel drawn to. Participants are instructed to listen closely to the sounds the object makes. Finally, individuals return to the group and reflect on what relationship they may have with the object and the sound it makes, or why they felt drawn to it.

## What Is Resonance?

Many sounds we hear, such as when hard objects of **metal, glass, or wood** are struck, are caused by vibrations in the object. Typically, the harder or more dense an object or material, the more it vibrates. Resonance can also occur when an air current causes an object to vibrate.

Most acoustic instruments use very resonant materials. For example:

- The **strings and body of a violin** are both resonant. The strings vibrate against the bow, and those vibrations are carried through the hard wood of the body. The gaps in the body allow the vibrating air to pass through and it becomes like a chamber, amplifying the sound.
- The **length of tube and holes in a flute** allow air to pass through as it vibrates against the mouthpiece. The metal body of the flute vibrates and amplifies the sound.
- The **material and shape of a drum membrane** are designed to resonate when struck with a drumstick. In the case of a snare drum, metal ball bearings are loosely attached to the bottom which rattle when the drum is struck from the top.

Resonance is also important for hearing. The *basilar membrane* within the *cochlea* of the inner ear is made of very stiff tissue that is also resonant, which allows hair cells on the membrane to detect sound. Additionally, in mammals the membrane is tapered across its length so that high frequencies are concentrated on one end and low frequencies on the other.

# SOUNDS OF NATURE

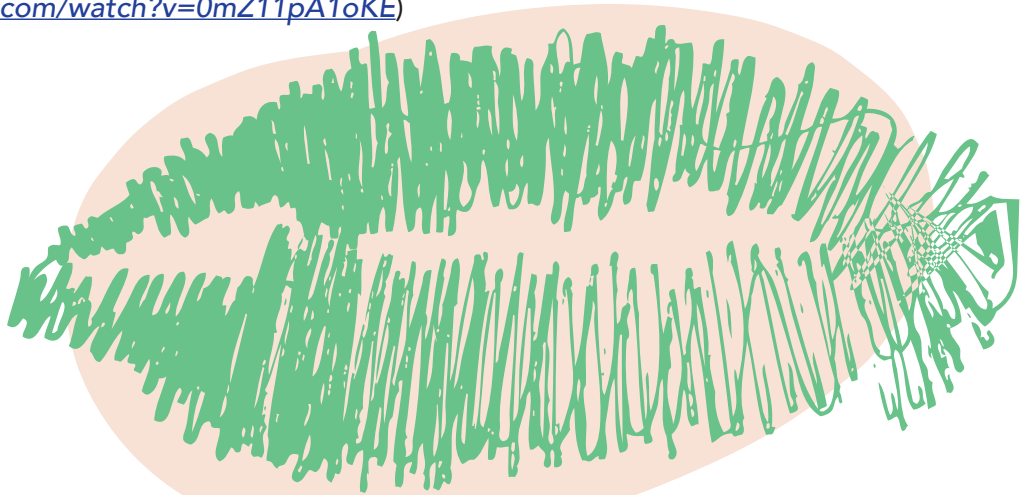
*In this session, listeners will try to identify sounds from nature and then try to recreate those sounds. Life on earth has evolved along with sound. Besides helping early humans detect dangerous predators or locate potential prey, we learned how to use sound for communication and recreation, and over thousands of years developed systems of language and music. Today in Chicago, you can hear when the CTA train is coming from far away or if you just got a message from a friend. Today we will focus on sounds from the natural world and we might find some surprises...*

*(contributed by Rob Frye, Inferno summer residency)*

**Cook Time:** 30-90 minutes

## **Ingredients:**

- Portable speaker such as Roland Mobile Cube, 1/8 inch aux cable, mobile device with internet access
- Seal Sounds from Encounters at the End of the World, Werner Herzog (<https://www.youtube.com/watch?v=OlrcbKIW4Tw>)
- Musician Wren sounds (<https://www.youtube.com/watch?v=vvZVcvxmOgo>)
- Whale Sounds from Monterey Bay ([https://www.youtube.com/watch?v=5tRMqbPH\\_pk](https://www.youtube.com/watch?v=5tRMqbPH_pk))
- Gum leaf (Eucalyptus) music of Uncle Herb Patten (<https://www.youtube.com/watch?v=0mZ11pA1oKE>)
- Korg Monotron Delay

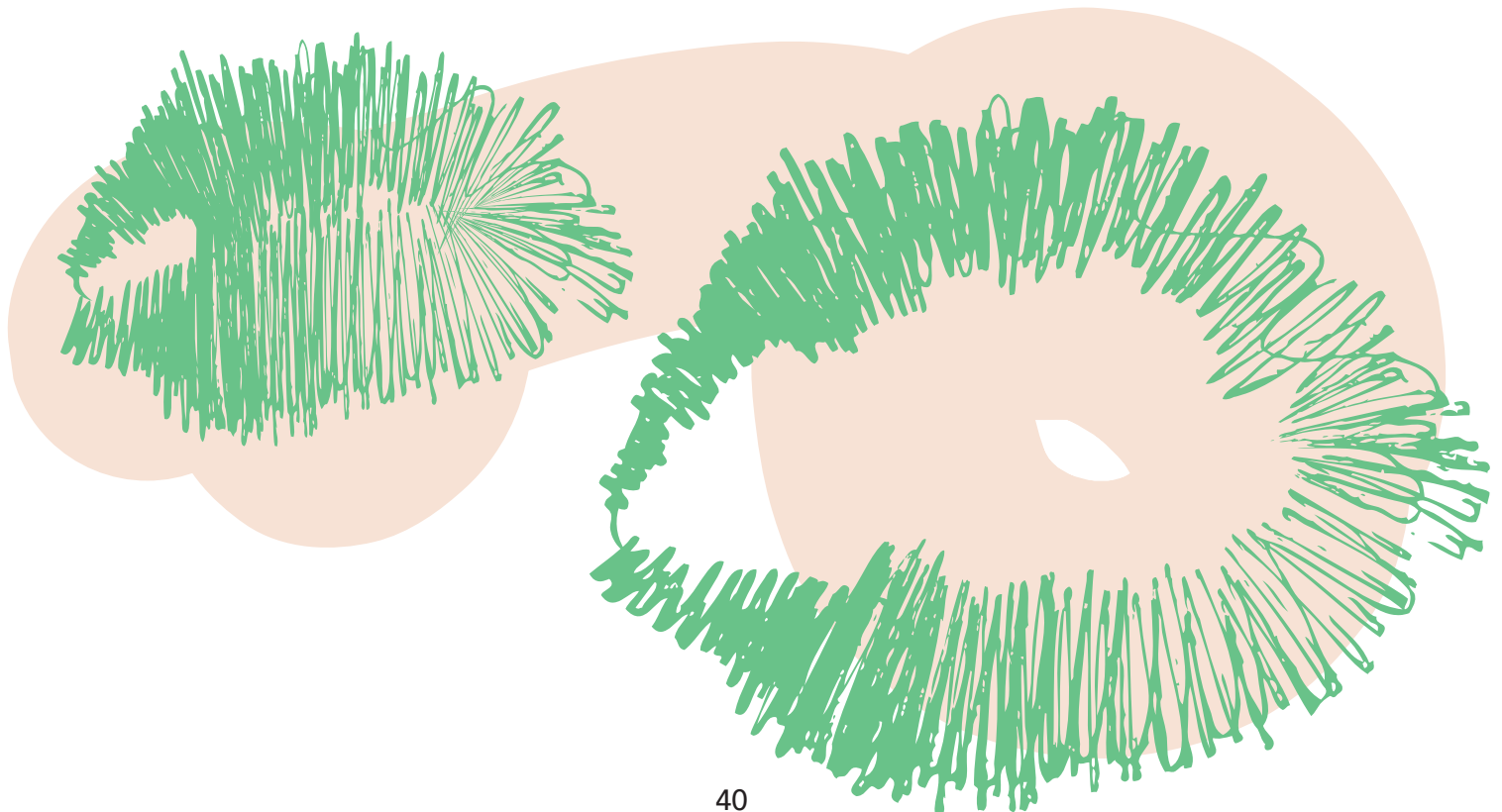


Ask the group to sit down and get comfortable, preferably under a shade tree. Just like before playing soccer, this team will warm up together. To 'stretch' the ears we will be quiet for about one minute and practice **Active Listening**. This means we will concentrate on all the sounds around us, from our own breathing all the way to the neighborhood outside the park. After some time has passed, ask people to raise their hands and share sounds that they heard. In the city we will hear man-made sounds like planes, cars, people talking, music, etc. But we will also hear, the wind, insects and birds.



Next, explain that you are going to play some sounds over the speaker and ask everyone to think about what sound they are hearing. If they have a guess as to what makes the sound they should raise their hand again (play seal sounds). It will be fun to take guesses about the seal sounds because they are so electronic and unfamiliar sounding. You can gradually give them hints that it is an animal, that it lives underwater, etc. Listen for another minute and ask what else the sound could be if it were in a movie. Next play the song of the Musician Wren. This sound is more obviously from a bird, and you can use the speed function in YouTube to slow down the recording in order to hear the intervals that the bird sings. Can you imitate this song by whistling or singing? You will hear the bird sing perfect 5ths and octaves, how remarkable! Next play the sound of the Humpback whale. Explain that in 1965 Humpbacks were almost extinct from over-hunting. These animals are the size of a school bus and until 1968 only a handful of people knew that they like to sing. Their sounds were discovered by an engineer working for the Navy and used by environmentalists to gather support for the conservation of this poorly understood species. Indeed, scientists still aren't certain why they sing and it has recently been discovered that whales change their songs completely every few years, almost like popular songs on the radio. There is still need for more research in this field, and someone in this very group could be the one to make the next discovery!

The final sound of the day is not made by an animal (play the sound of Uncle Herb and his eucalyptus leaf). Who can guess what instrument they are hearing? Aboriginal people and people from Asia and Oceania have a tradition of playing leaves. It is tricky to master, but we can try playing with some blades of grass. Pick a thick piece of grass from the lawn and demonstrate. Take 10 minutes to allow everyone to search for a good blade and try playing. If it is too difficult, offer the Korg Monotron Delay as a way to replicate seal, bird, or whale sounds.



# WHOLE BODY LISTENING

Today let's explore listening as an activity that you can do with your whole body, with all of your senses. Ask yourself "how do we listen with our whole body?" as we come to notice sounds that are happening in and around us.

(contributed by Anna Wolfe-Pauly, Inferno Sound Re:Creation series)

**Cook Time:** 1 hour, can be shorter or longer depending on the time you have available

## Ingredients:

- People
- Paper
- Pen
- Yoga mat/something to lie on (optional)
- Pauline Oliveros, *Deep Listening: A Composer's Sound Practice* (optional)



Sound is made of vibration. *What is vibration to you?*

Vibration is something that you can hear and feel. It is around us all of the time. It is what connects us to all different kinds of creatures and things. Everything is affected by vibration.

Listening is different than hearing. How you "listen" is about how you give your attention to something. The way you give attention to something is not going to be the same as how someone else gives attention to something so it is super valuable and can show who you are!

*what you notice is special to you.*

Today we are going to try some exercises that explore how we give attention to ourselves, other people, and our environment.

Let's begin by finding out own energy and vibration in our bodies.

## **Palms - Taoist Facewash (5 minutes, any location)**

- Get up, shake it out.
- Rub palms together vigorously making heat, energy.
- Hold it for a moment and bring the palms of the hands to the eyes and let the warmth of your hands go in and relax the eyes.
- Sense the distance between your eyeballs and the back of your head.
- And one more time with the hands, rubbing together generating heat, bring the palms of your hands to your cheeks and we are going to rub up and down vigorously 36 times.
- I will count to 12, 3 times. You can count with me!
- Bring the index fingers to the sides of the nose and do the same thing 36 times.
- I will count to 12, 3 times.
- Take the thumbs and we are going to go across the brow 36 times.
- Take the thumb knuckles and we are going to go over the eyebrow and under the eye. Do that 9 times.
- Then go across the lips 36 times.
- Then throat pulls 36 times.
- Then take your index finger and put it behind your ear like so and rub 36 times.
- Then gently over the scalp 3 times.
- Then place the fingers here on the cerebellum, which is located right at the base of your skull, (show them) and then w/ the index fingers tap so that you hit the cerebellum. We are going to do that 9 times.
- Then cup the ears 9 times.
- Then corkscrews 3 times.
- Then click your teeth together 18 times.
- Then massage the gums with the tongue and swallow a nice swallow down to the energy center below the navel.
- Close your eyes and feel the electricity that you just generated moving in your body.

## **Heartbeat (10 minutes, any location)**

Each person detects and then expresses their own heartbeat, first by tapping on anywhere on the body. When everyone is tapping, then switch to hand clapping. Each person keeps their own heartbeat and listens to the rhythms made by the group. It can be difficult, stay with it!

**Sound Fishing - Flower (10 minutes, in a space where everyone can comfortably lie down)**

Let's all lie down in a circle with our heads next to each other so we form a flower, where our heads are at the center and our bodies will be the petals. Close your eyes.

*Can you feel the air on your skin? Do you hear the \_\_\_?*

*What do you taste in your mouth?*

More presencing questions can be added here.



Now we are going to play a game where we go around the circle making sounds. The first person tries to make any sound they listen to stronger (reinforcing) for as long as they can, with voice if they are comfortable. then another person reinforces the first sounder for as long as their breath can. once you've reinforced a sound, then you make a new sound, and alternate like that: reinforce, create, reinforce, create, reinforce, create, and so on. Anyone can stop and listen for new sounds at any time, and start or stop at any time. any sounds -- from humans, environment, internal, etc are fair game. Lets just take a minute to gather some sounds from your environment first. *What are the closest sounds you can hear? What are the furthest sounds that you can hear?* The sounds that you make could be from what is around you or they could be from a sound inside of your head! Alright, let's go!

*How is everyone feeling after that?*

**Camera buddy (10 minutes, outdoor or indoor space, outdoor preferred)**

Pair up. One person is the camera, the other person is the photographer. The camera will close their eyes and the photographer will lead them to whatever they want to take a picture of. When ready the photographer will tap the camera on the shoulder once to open the shutter and twice to close the shutter. Take three photos. Switch roles!

Share about what everyone took pictures of. *What was it like to be guided by someone else's curiosity?*



## **Extreme Slow Walk/Song (10 minutes, outdoor or indoor space, outdoor preferred)**

Let's just walk around for a couple minutes in the grass, or woods, or indoor space with cupped ears to get comfortable making sound in this new space.

Choose a heart song, a lullaby, or a song that you like to listen to when you want to feel comforted. *Ok, does everyone have a song?* In this exercise, we are going to focus on our breath. We are going to match the pace of our steps to the pace of our breath, going as slow as we can. Think snail or slow motion. When you take a breath in, you bring your foot up to take a step and then when you breathe out you will sing one syllable for as long as your breath goes, taking a step for as long as your breath goes. We will do this for just one verse. *Does anyone have any questions?*

*How is everyone feeling? What do you notice when you go that slow?*

## **Circle & Debrief (10 minutes, any location)**

*How is everyone feeling? What did we do? What did we learn? What is something that you did you did today that you hadn't done before? What can you share with others about listening? Do you feel comfortable trying these exercises on your own?*

# MIX IT UP!

This can be done with people of any age. The guiding questions and duration of the activities will vary greatly with the group. I highly recommend looking over Pauline Oliveros' book to get acquainted with the feeling of this work!

# UPCYCLING INTO INSTRUMENTS

Upcycling found objects can be a creative way to transform otherwise unused materials into fun musical instruments. This can be as simple as taking any objects at hand and repurposing them to make music: a water bottle, a basketball, a foosball table, leaves, rocks, grass, etc. The possibilities are endless! In many instances, the upcycling is an instant transformation. With a little preparation, everyday materials can be used to build robust and expressive musical instruments. Here are two possibilities: a collection of tuned percussion instruments and a kit for building and playing a plucked instrument.

(contributed by Nicholas Cline, Inferno summer residency)

## Struck Idiophones (AKA "Boomwhackers")

1. These classic tuned percussion instruments are made from tubes or pipes. Any cylindrical tube will work: cardboard, PVC, plastic. They are played by hitting one end of the tube with your hand or a mallet. Each tube produces one pitch. So, if you make lots of tubes, it is great for large groups.

### Ingredients:

- Tubes (cut to length)
- Duct tape
- Marker



2. The pitch of the tube is determined by the length and diameter of the tube (the larger the tube, the lower the pitch). Here is a quick chart for making a set of 8 tubes tuned to a major scale. The "1" is your base pitch/length. Cut the other tubes (all the same diameter) by dividing the base tube length by the numbers below. Lengths are approximate for tuning. Close is probably just fine! Put duct tape over one end of the tube (easier on the hands). Mark each tube with the number of the pitch in the scale. You can use any number of tubes. Simplify the scale by using a pentatonic scale: 1, 2, 3, 5, 6, 8. Extend to higher or lower octaves by halving or doubling the lengths.

see scale →

SCALE	DIVIDE BY	For example: a 24" tube	3/4" diameter PVC pipe tuned to a C major scale
1	1	24	27.9
2	1.125	21.33	26.0
3	1.266	18.96	23.2
4	1.333	18.00	20.7
5	1.5	16.00	19.6
6	1.688	14.22	17.5
7	1.898	12.64	15.6
8	2	12.00	13.9

3. Everyone has a tube. Form a circle which goes from high to low. Someone in the middle improvises a melody by cueing each person when to play a note. Mix up the order so that it isn't in order from high to low. Create a "rhythm section" and a "melody section."
4. Break up into small groups of 3-5. Each group composes and rehearses a pattern of interlocking parts to form a melody. Add singing, rapping, chanting, vocalizing if you want. Bring them all together and perform them in sequence.
5. Compose a song by writing numbers on poster/chalkboard. Lead the group through playing the song.

### Plucked Music Boxes

#### Ingredients:

- A box with an open top (cardboard, cigar, pencil box)
- Rubber bands, small springs, etc.
- A contact microphone and amp

1. Attach the springs/rubber bands to the box. Attach the contact mic to the box. "Tune" the springs/rubber bands by adjusting the tension.
2. These instruments can be the basis for improvisations or collaborating in Ableton. Attach popsicle sticks to make an amplified kalimba (thumb piano).

**MIX IT UP!**

Depending on materials and time, small groups/individuals could make their own instruments, decorate them, compose and record songs.

# SOUND WALKS

(contributed by Eric Leonardson)

**What is a Soundwalk?** A "soundwalk" is simply, said Hildegard Westerkamp, "any excursion whose main purpose is listening to the environment. It is exposing our ears to every sound around us no matter where we are."

For those of us who live in the cities the importance of listening may be hard to grasp when so many things are vying to catch our attention visually. Living in places where human-generated sounds or "noise" dominant, some may feel compelled to expose their ears less rather than more. Here is a paradox, in his introduction to *Soundscape: Our Sonic Environment and Tuning of The World*, R. Murray Schafer wrote, "Noise pollution results when man does not listen carefully. Noises are the sounds we have learned to ignore." While that may seem to oversimplify what, how, and why noise continues to vex us, it should also challenge us. If you dare to listen carefully you may begin to discover that there is more out there than "just noise" or "acoustic garbage." You may find some noise bears information, sending signals about what's happening around you. This is a part of your soundscape. The other part is what and how you perceive it while at the same time continually, as if in a feedback loop, making and remaking your soundscape as your attentiveness changes. Slipping in and out of attention to the constant flow of sounds coming and going, appearing and fading, from you and from others; these are the living elements of your soundscape.

The transformative power of a soundwalk may resemble a performance, a celebration or a meditation for groups and can include intentional elements that focus the experience in a particular way. Staging actors or musicians along the route has provided an interesting experience on some soundwalks.

Blind walks accentuate the experience greatly as they require complete surrender to our often atrophied senses of hearing and touch. Keeping one's eyes shut with an arm clasped through the arm of a guide can be quite exciting, but may be surprisingly stressful for the blindfolded soundwalker. The sensation of "reaching out" with your ears as sources of sounds approach and pass from any direction, slowly or suddenly, one at a time or all at once, makes walking through even a familiar environment intense. The blind soundwalker may feel quite uncomfortable, vulnerable and hyper-vigilant. This state of mind means a pair or a group of organized participants must construct an important person-to-person ingredient for soundwalking: **trust**.

Reading about soundwalks helps, but only with active participation can its full meaning be



felt. Doing a soundwalk is the best way to understand what it is and its importance. Disgusted by a gentrifying urban neighborhood I had once lived in, leading a soundwalk through the hustle and bustle of its Saturday night bar scene, weaving away to quieter side streets and back again into the fray was revelatory for me. I discovered that the streets were sonic pathways similar to movements of a structured improvisation; a physical and spatial score in which I could lead my listening audience while the scene played on. We, a silent group of actively listening walkers, created an unusual and unexpected presence as we passed through the crowded streets.

As an [ecological practice](#), soundwalking can be an entertainment or a method of inquiry, a call to action or a meditation. Soundwalks can play multiple roles all at once or shift intents from moment to moment. Deep, active listening can enrich and stimulate creative responses in day-to-day life, as well as inform the design of [our built environment](#). Soundwalking can encourage greater care and respect for natural soundscapes as a part of human soundscapes, and awareness of how human soundscapes impact natural soundscapes.

**Cook Time:** 30 minutes - 4 hours

**Ingredients:** you, other people (if desired),  
listening, other senses (if desired)

**The steps to convene and lead a soundwalk are:**

- Know thyself.
- Go to the place before the event. Familiarize yourself with it, noting how the soundscape changes according to time of day, weather, movements of animals and people, etc.
- Expect the unexpected.
- Simple instructions verbally delivered and not too many.
- Relax, this should be fun.
- Breathe, never underestimate how helpful it is.
- Slow down, notice the sounds of people rushing, their footsteps.
- Listen. Don't talk unless it's needed, but provide moments to discuss what and how.
- Especially at the conclusion of the soundwalk, take time to ask and discuss what participants experienced. Listening and memory are subjective and it may be surprising to learn how differently we notice and interpret sounds heard. The discussion can have a positive communal effect, even if some sounds were not enjoyable or interesting.
- Soundscapes are loaded with evidence of what is happening. For students, researchers, conservationists and anyone else a soundwalk is the simplest and most direct way of engaging with your sonic environment.
- Perhaps, if soundwalks become a normal activity, everyone would desire more agency in determining the quality of our soundscape as a shared resources with the array of interconnected features and services of the city.

# MIX IT UP!

There are many ways to extend and adapt soundwalking to a range of other practices and groups, be they soundscape designers, musicians, composers, musicologists, DJs, teachers, parents, architects and city planners, dancers, poets, acoustic engineers, therapists, meditation practitioners, or park rangers.

Memorable soundwalks may include musicians performing with the summer sounds of their space, echoing the audible features of passerby, birds, architecture, and anything else comprising the "music of the environment." Taking care of the spatial relationships between people and places and the way that hearing help us know where we are lead to affecting the "aural architecture" of any place, be it indoors or outdoors.

A sense of environmental stewardship may inspire citizen science projects. As the presence of many species in urban and rural areas is often heard and not seen, identifying the various species of insects, amphibians, birds, and others can be accomplished by listening on a soundwalk.

The "sound treasure hunt" can be played in a variety of ways. "Can you find a silence?" R. Murray Schafer asked in one of his exercises. He also observed that naming and counting types of sounds is fun for small children.

I have passed pencils and small notebooks to children and instructed them to listen and draw their graphic interpretations of the sounds they hear. Sometimes, I will find a stick, a pinecone, stone, or dried leaf to make sounds in soundwalks, responding to what I hear with sound making.

Mindful ways of breathing and listening for your own body sounds help settle us and relieve a lot of stress and anxiety at the same time. Pauline Oliveros's Deep Listening is a practice unto itself sharing similar intentions and ways for listening with soundwalking, emphasizing its meditative aspect.

We can, in a manner of speaking, reset our hearing by pressing our ears closed with a finger over each one, and hold for a minute. It may feel longer minute than normal but the reward is in what happens. You are likely to notice the sound of your breath in a way you never do otherwise. When you let go and open your ears you may have the odd sensation of being refreshed, able to hear more sounds than before. This simply shows how easily our ears and brains may be fatigued. Taking a minute like this with your group before starting the soundwalk can help raise everyone's sensory awareness. Taking a minute with our eyes closed helps, too. With advance planning, for an unforgettable experience, you might take people to a place while blindfolded. Make sure they are willing participants and you can assure their safety 100%.

Chicago Butoh artist, Sara Zalek uses the distinct vocabulary of dance genre, Butoh to

create extremely slow movement pieces that visually complement the subtle sounds of wind through open grassy meadows, marshes, and in shady wooded area on soundwalks with sound artist, Norman W. Long.

Artist Lindsey French asks participants in her soundwalks to engage all the senses, including touch and smell. Parks with gardens and conservatories are well-suited for this.

Artist Amanda Gutierrez verbalizes her historical notes on the sounds and memories of immigrant neighborhoods, sometimes giving participants short texts to read aloud at different points along the route, while letting the hustle and bustle provide the palpable voice of the neighborhood's unique cultural and history in the present tense.

Equipped with an adequate supply of headphones and audio gear, Anthony Janas and I have set up "listening stations," a place on the soundwalk route where participants are encouraged to pause and listen through microphones and homemade hydrophones (underwater microphones) set up to elevate awareness of the surprising quantity and quality of sounds that are always present in the air or in the water. In 2018, Tony invited Greg O'Drobinak to bring his homemade Very Low Frequency (VLF) antenna to listen to "whistlers" and the various sounds from the ionosphere, caused by lightning and other activities in the electromagnetic spectrum on the edge of the earth's atmosphere.

### Reference Materials:

1. [Writings by Hildegard Westerkamp](#), composer and sound ecologist. If you read only one of her essays, read the one titled, "[Soundwalking](#)" and "Soundwalking as Ecological Practice."
2. Some artists make interactive "mobile walks" that use GPS and recorded audio to be heard with smartphones at specific locations on a pre-defined walking path. [Miniatures for Mobiles](#) by Udo Noll and [River Listening](#) by Leah Barclay are good examples.
3. Christina Kubisch's [Electrical Walks](#) is a good example of a listening walk for otherwise inaudible electromagnetic phenomena in cities.
4. Many like to record sounds while on a soundwalk, to document or even compose with their audio. [Soundwalking Interactions](#): a blog by Andra McCartney is a goes deep into social and psychological meaning and value of this practice, one that bridges into musical and other sound practices.
5. [The Midwest Society for Acoustic Ecology \(MSAE\)](#) has led soundwalks that raise awareness of urban ecosystems and engage communities in citizen science.

# INSTRUMENT BUILDING w/ RECYCLED MATERIALS

Creating music instruments from recycled materials allows us to explore how sound works on a physical level and reduce waste. This activity encourages both imagination and practical design. Although these are just three examples, there are countless others that can be made with the right amount of ingenuity.

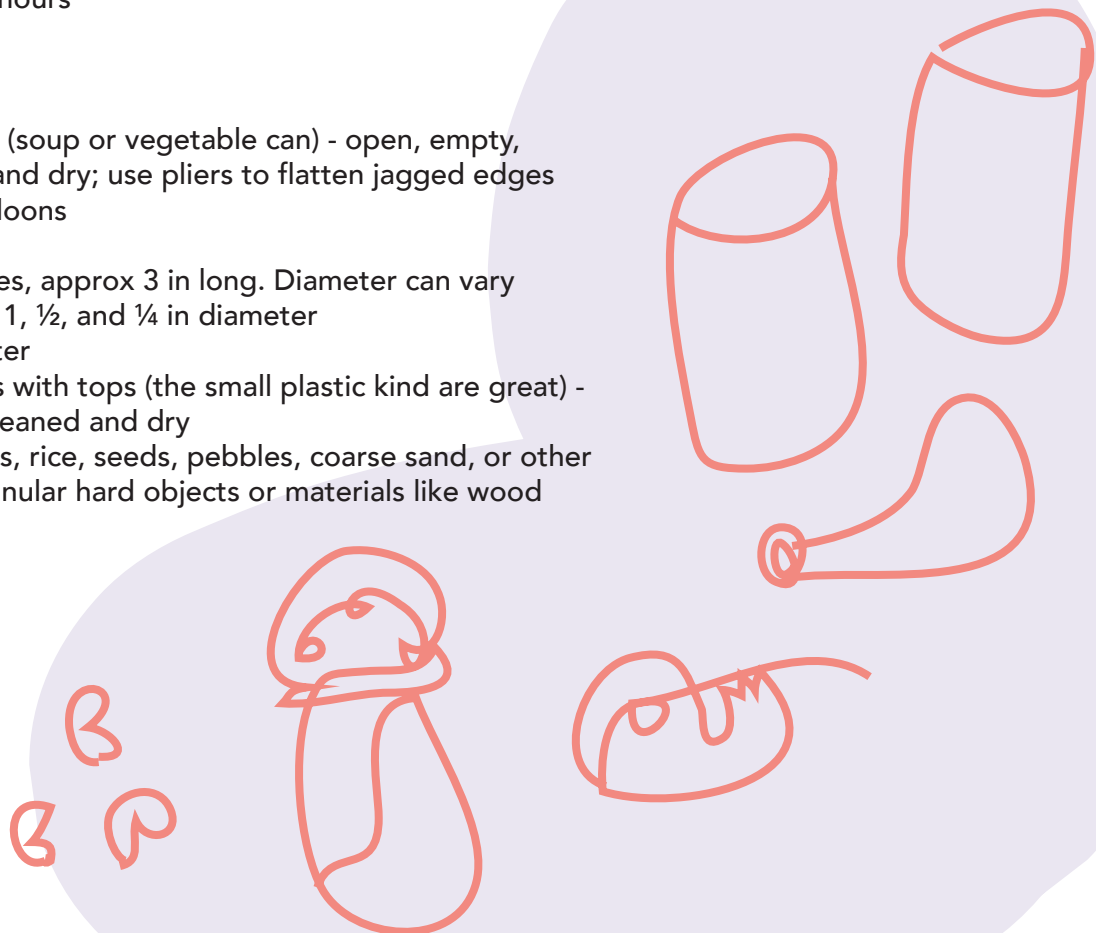
For this activity we will create steel can bongos, plastic tube saxophones, and spice jar shakers.

(contributed by Aquil Charlton)

**Cook Time:** 1-2 hours

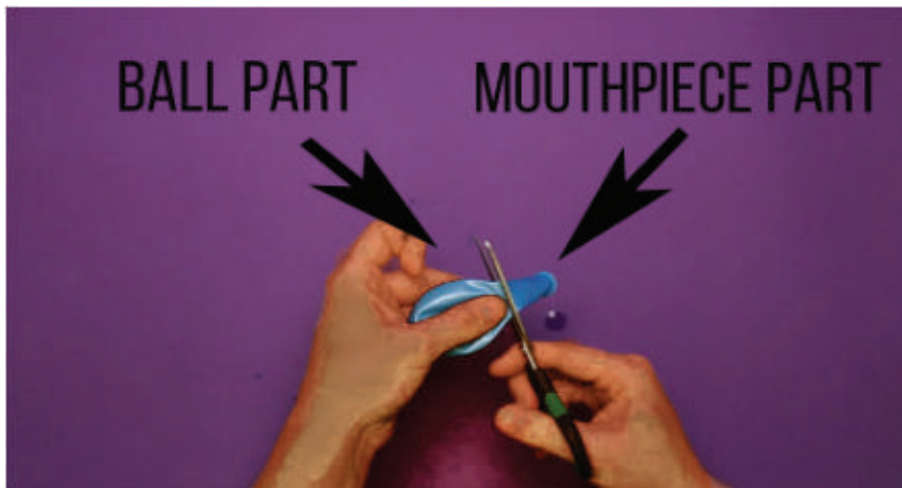
## Ingredients:

- Steel can (soup or vegetable can) - open, empty, cleaned and dry; use pliers to flatten jagged edges
- Party balloons
- Tape
- Vinyl tubes, approx 3 in long. Diameter can vary between 1, ½, and ¼ in diameter
- Tube cutter
- Spice jars with tops (the small plastic kind are great) - empty, cleaned and dry
- Dry beans, rice, seeds, pebbles, coarse sand, or other small/granular hard objects or materials like wood chips



## Steel Can Bongos

- Decorate steel can if desired with permanent markers, stickers, glitter/sequins and glue, etc
- Cut the mouthpiece end from a balloon, and use only the ball portion
- Stretch and pull the ball part of the balloon over the open end of the can
- Tape around the entire edge of the balloon, attaching it to the can
- Balloon can be pulled and let go of to create a popping sound or play the top like a drum with fingers or a popsicle stick



## Plastic Tube Saxophone

- Cut a 2-3 inch length of plastic tubing (using the tube cutter)
- Pull the cut end of the mouthpiece part of a balloon over one end of the tube so the part you would normally blow into to inflate the balloon is hanging down
- Tape around the tube to fasten the mouthpiece

## Spice Jar Shakers

- Select noise-making material from available options
- Place enough material in the spice jar to cover about a half inch from the bottom
- Replace cap
- Tape down the cap
- Shake and enjoy

**MIX IT UP!**

Ensembles - Participants may want to play instruments together and test the range of sounds. Shakers, Drums and Saxophones can be broken into sections and practice playing together. Each group can share at the end.



# VIBRATIONS

## (W/ SLINKIES & BIKES!)

*This is a recipe for exploring sounds hidden inside everyday objects. Using contact microphones, participants will 'listen' inside slinkies, bicycle tires, water bottles, trees, themselves, and whatever objects might be present. Adopted from Nic Collins' book *Handmade Electronic Music*, the activity can also be used to visually and tactilely demonstrate sound wave vibration.*

*(contributed by Rob Frye, can be used with deaf/hard-of-hearing participants, Inferno summer residency)*

### Ingredients:

- Participants
- Table
- Contact microphone (clip-on Korg mics work great)
- Loop pedal such as Boss RC-30 and ¼ inch cables
- Amplifier such as Roland Micro Cube, or Roland KC 550 for producing low sounds
- Slinky
- Bicycle wheel with inflated tires
- Roll of duct tape to place the bike wheel on top of so that it is stationary.
- Everyday objects such as a rubber band, water bottle, soda can, etc.
- Drum stick and/or drum brush

Gather together outside under a tree if possible, and form a circle around the table so that everyone can see everyone else. What is sound? Have everyone touch their own throats while making an 'ahh' sound. Can you feel the vibrations? Sound is a form of mechanical energy, and it can move the air. Similar to wind, it is invisible. But you can see signs of its force acting on other objects, like leaves moving on a tree. Every physical object can vibrate and therefore produce a sound which is unique to its physical characteristics such as its material, size, density, etc. This is part of the reason all of our voices sound different! Feel your throat again and say your name as loud as you can! Tension of the vocal muscles can affect the sound produced. Practicing making low sounds and high sounds and feeling the difference.

2. Explain that today we will explore vibrations and sounds hidden inside everyday objects. Stand in the middle of the circle holding one end of the slinky. Have a volunteer hold the other end so that it stretches out. Have the volunteer close their eyes while you tap the slinky with the drumstick. What did you feel? Did everyone see the vibration travel from the drum stick to the volunteer? The slinky allows us to see vibrations and their frequency, amplitude and wavelength. Switch volunteers and practice making long vs. short waves and waves with greater and lesser amplitude. But wait, if this is a vibration then it must make a sound, right?

3. At this point, introduce the contact microphone. It is a special microphone that works differently than a handheld mic used on American Idol; it does not pick up vibrations in the air. Rather it senses vibrations inside physical objects. It must make contact with that object to work. You may choose to explain the piezoelectric effect. Continue with the next volunteer and this time attach the contact microphone to the slinky. Gently tap the slinky again and listen. What does that sound like? In fact, Ben Burtt who worked on the sound design for Star Wars used a similar process to create the sounds of laser blasters in Star Wars! What other objects can we 'listen' to?

4. Proceed with attaching the contact microphone to the branch of a tree, participants throats, rubber bands, and water bottles. Be sure to allow the group to experiment. Next introduce the bicycle tire. Using the loop pedal we can make beats with the tire, which to me sounds like a tuned drum. Play not only with the rubber tires, but with the metal rim and spokes, exploring how the tension of each spoke creates different notes. Take turns looping beats and adding slinky sounds and other favorite hidden sounds from the day.

## MIX IT UP!

This 'Hidden Sounds' recipe can also be used with groups that are hard-of-hearing. In this case it is crucial to have an amplifier that can produce low sounds in order for participants to feel the vibrations. A Roland KC-550 works, or a powered subwoofer would be great.

Wear ear plugs so that you can turn up the amp to be loud enough to feel.

The slinky activity is perfect for demonstrating sound vibrations by sight and touch. Bike wheels, especially those for mountain bikes produce low sounds that are great for making low drum sounds. In my musical project Flux Bikes, I use a Boss PS-5 pitch shifter to bend the sounds of the bike tire even lower. These more bass-heavy sounds were clearly felt by hard-of-hearing groups, and they enjoyed making loops and feeling the beats. I placed a tablecloth over the speaker to see how the speaker moves air. Finally, another activity from

Nic Collin's book demonstrates how speakers work, by connecting batteries to raw speakers, you can make the speaker 'jump' with the voltage from the battery. Also, sheet metal can be used (with precautions) as a great vibration and sound conductor.



# SONIC SCAVENGER HUNTS

*Cities are noisy places full of a wide range of sounds that often overlap. Listening with intention to the world around us can be a meditative experience as we distinguish between types of sound, imagining their source or location. It also allows us to deepen the connection with our natural environment.*

*In this activity participants work in small groups to identify different types of sounds that occur in their environment and use handheld recorders to capture them.*

*(contributed by Aquil Charlton, Inferno Sound Re:Creation series)*

**Cook Time:** 60-90 minutes

## **Ingredients:**

- Scavenger Hunt Worksheet (next page)
- Writing Utensils
- Handheld Recorders (or even cell phones)
- Headphones

Divide participants into scavenger hunt teams

Discuss different types of sound, referencing Sound Scavenger Hunt worksheet

Distribute recorders and headphones to participants - 1 recorder and 1 pair of headphones per group

Review basic handheld recorder functions and allow teams to briefly practice using them

Each participant takes a turn recording the names of the other members of their group

Each participant takes a turn using headphones to monitor (listen for sound quality)

Send teams out on the scavenger hunt for a set length of time. Participants listen for and record a different sound for each category on the worksheet.

Once everyone returns, each group shares about:

- The sounds they discovered
- Their group process
- Recordings of sounds

Close with a reflection on the benefits of intentional listening and ideas about what to do with recordings

## Sound Scavenger Hunt (worksheet)

Find sounds that fit in the categories below and mark down the name of the file from the handheld recorder used to capture that sound. Also note where the sound was recorded.

### Vocabulary:

- **Reverberation (reverb)** – The persistence of sound after a sound is produced
- **Tone (tonal)** – Any sound given qualities like pitch, strength, source, etc.
- **Rhythm (rhythmic)** – Regular pattern of a beat, accent, or similar sound
- **Melody (melodic)** – Musical sounds in agreeable succession or arrangement

