

# Saturday Science "Sounds Like Fun" -- Week 1

## Theme: Our Own Sounds

Daily start-up:

~9:30 Students are signed in and receive name tags and pre-fabricated journals (drawing paper stapled in construction paper covers)

Introduction to the journals (from arrival until ~9:40) Students use color markers and pencils provided to "draw pictures of the thing that makes your favorite sound"

9:40 "Find someone who shares this favorites sound" (students move about the tables looking at each others' drawings)

9:45 Whole-class sharing of favorite sounds

9:50 Teachers introduce themselves

9:55 Discussion of class rules. Using poster paper, list the class rules as agreed upon by class consensus. Included by the teachers are the rules:

1. Never leave the room without adult supervision
2. Always sign in as you arrive and sign out as you leave (parents)

(Children provided rules about listening when others are speaking, but this would have been suggested had the children not offered it on their own.)

10:10 Group sing with guitar "If You're Happy and You Know It":

www.zzzebra.de Kreisspiel

J=140

The musical score is written in 4/4 time with a tempo of 140. It consists of four staves of music. The first staff has a treble clef and a key signature of one flat (Bb). The lyrics are: "1. If you're hap - py and you know it, clap your hands. If you're". The second staff continues the lyrics: "hap - py and you know it, clap your hands. If you're". The third staff continues: "hap - py and you know it and you real - ly want to show it, If you're". The fourth staff concludes with: "hap - py and you know it, clap your hands." and ends with a double bar line and the word "LABBE".

Chords shown: F, C, F, G, F, C, F.

(Chord change—not as written above):

1.

G D7  
If you're happy and you know it, clap your hands.

G  
If you're happy and you know it, clap your hands.

A mi  
If you're happy and you know it

G  
and you really want to show it,  
D7 G  
If you're happy and you know it, clap your hands.

2.

If you're happy and you know it, slap your sides.  
If you're happy and you know it, slap your sides.  
If you're happy and you know it  
and you really want to show it,  
If you're happy and you know it, slap your sides.

3.

If you're happy and you know it, stomp your feet.  
If you're happy and you know it, stomp your feet.  
If you're happy and you know it  
and you really want to show it,  
If you're happy and you know it, stomp your feet.

4.

If you're happy and you know it, snap your fingers.  
If you're happy and you know it, snap your fingers.  
If you're happy and you know it  
and you really want to show it,  
If you're happy and you know it, snap your fingers....

10:13 Demonstration of made-up “sound story”---

### Story with Sounds (mouth or hands only)

Possible sounds used:

- Clapping
- Patting
- Snapping
- Whistle
- Popping
- Clicking
- Clocking
- Ch-ch-ch-ch
- Sh-----
- Sssssssss
- Ts-ts-ts-ts
- Rrrrrrrrrrr
- K-k-k-k-k
- Gargling
- F-f-f-f-f
- Rrreeee
- La-la-la-la
- Mmmmm
- Tiger growl
- Monkey call
- Howl
- Bird calls
- Meow

For this story, the children will be divided into sound effects groups. As each sound comes into play into the story, the children will enact the sound, and continue making the sound, and the sounds will accumulate until the stop signal.

In this story, the “stop” signal will be:

**“and then the phone rang <brrrring>”**

The sounds stop completely for a moment, and then the story resumes, with more sound effects, similarly accumulated until the stop signal...

(everybody says <brrrring> )

**one time the first time,  
two times the second time,  
and three times the last time.**

A demonstration should be done before beginning the story.

### STORY:

Once there was a little cat <meow> who took a walk through the house <patting>. She heard many sounds as she walked. There was a clock on the wall <click-clock>, a teakettle boiling on the stove <whistling> . The dog was barking in the yard <barking> and the vacuum sweeper was running <rreeeeee>. And then the phone rang. <brriing> (first time)

### STORY RESUMES:

.....

10:30 BREAK (Children taken to the restroom to wash hands; boys are supervised as they line up and wait in the hall for the girls, who have twice as far to go to get to the restroom, to return). Snacks served to everyone until 11:00

11:00 Clean up

11:03 Game form sounds used in story—(Loud/soft, high/low)

11:30 Movement activities: Clapping echoes (Which became the signal for getting everyone's attention after this first day activity) and marching to music. (The idea of planning movement activities throughout the class time is essential for K-2 children. Otherwise, they become "squirmy" and lose focus, if there is too much "seat work")

11:55 Making sounds with your body—The Rain Game. By standing in a circle and rubbing their hands in an additive sequence, students simulate rain sounds that build and fall away.

11:16 Journaling: "What we did today" Children draw pictures. Teachers write requested words on the board if children want to include captions with their drawings.

11:55 "Next week will 'Animal Sounds', so think about animal sounds you know"

12:00 Dismissal

NOTES: After class, one boy questioned how the day's activities related to science, so the plan for next week will include this explanation.

### **Saturday Science "Sounds Like Fun" -- Week 2 Theme: Animal Sounds**

#### Opening—

Class discussion about the nature of observation and how, "Scientists make observations". Children contributed ideas about the various ways we observe (use of five senses: see, hear, feel, taste, smell).

"What things did we do last week that involved the sense of hearing?"

(Paper poster listed main points about observation.)

"How do scientists use sound in their investigations?"

Discussion of identifying animals by the sounds they make: example is doing a "frog survey" where scientists listen for various frog calls to determine what frogs live in a given pond...

Made-up song with guitar: "Animal Sounds" (a cumulative song; the children contribute ideas that add onto the sequence spontaneously)

Chorus:

G

*Animal sounds, animal sounds*



NOTE: The activity about the frog calls which appears on the final Saturday Science (see lesson six) would have been better at this point, since it went along with the discussion about scientists using sound to identify frog species, but the CD of recorded frog calls was late in coming.

**Saturday Science “Sounds Like Fun” -- Week 3**  
**Theme: Making Sound with Self-styled Instruments**

**Activity #1 – Making rhythm instruments**

*To make flute:*

240 straws  
4 tape rolls (1 ½ inch)  
8 scissors

*To make rattles:*

48 yogurt cups  
48 rubber band, that closes around the cup  
48 pieces of fabric to cover cup  
Masking tape  
Rice, oatmeal, peas etc.

*To make drum:*

24 old cans  
48 pieces of fabric (about 1m<sup>2</sup>)  
48 cotton balls  
Color markers to decorate cans  
48 sticks (see attached picture)  
Wool



Show conductor video (about 1,2min)

<http://www.youtube.com/watch?v=02AEaQJuKDY>

“What does he do to make them play louder, more intense (etc.)?”

“How are the instruments organized?” (in groups)

Everybody stands/sits around the three tables in the back. Let children be conductor. (After making their own instruments, the children enjoyed the game of “Conductor” in which each child was given the opportunity to conduct the “orchestra” of rhythm instruments created and played by their classmates.)

BREAK/SNACK

## **Activity # 2**

Creating sound with glass bottles

24 glass bottles

6 spoons

6 funnels

6 water jugs, filled with water

6 towels

With the aid of teachers, students filled bottles with water to various levels and experimented with producing sound, either by blowing across the mouth of the bottle or by using the spoons as mallets to tap the bottles.

Discussion of high/low pitch and discoveries made while experimenting with the self-made instruments and glass bottles.

New discussion:

Paper poster with groups of instruments:

1. Vibrate themselves (idiophones) – rattle, drum
2. Vibrating membrane (membranophones) – drum with membrane
3. Vibrating string (chordophones) - guitare
4. Vibrating air (aerophones) - flute

Show:

[http://www.bayerische.staatsoper.de/data/kinder flash/instrumentenhimmel.html](http://www.bayerische.staatsoper.de/data/kinder_flash/instrumentenhimmel.html)

What category does each instrument fall in?

Write down the numbers in your journals

Do you know the name of the instrument? - Thumbs up.

Have one adult keep track of the types of instruments. Write numbers on poster to show at the end.)

End with daily journal entry.

## **Saturday Science “Sounds Like Fun” -- Week 4** **Theme: Musical Instruments**

### Opening discussion:

Mechanical sounds--Machines/Appliances: dishwasher, microwave, toaster, washer and dryer, fan, clock, tea pot, buzzing from a TV, lawn mower, hairdryer, computers, toilets and showers

Mechanical sounds that communicate--ambulance, fire truck, honking on a car, police car, sounds on a bus (“dinging” of the bell to stop), train whistles, beeping noises on a sidewalk, boat horn.

Other ways that sound communicates---

- inflection in our voices (why do our voices get louder at times and softer at other times?)
- being deaf- does that have a sound? How do deaf people communicate? (maybe give the kids some earplugs to try out not being able to hear as well)
- outside/nature sounds: birds, wind, trees, machines (cars, etc), people, insects (these tell us when it is getting dark, or light, or when there is a storm or not, etc).
- why and how do we use music to communicate? Continuing from last weeks’ building instruments and orchestra, what does creating music communicate or does it communicate anything at all? Does it communicate a certain mood or paint a certain picture for you? What sense does it play with?
- the concept of silence- does that communicate anything?

9:30-10:00—Introducing the concept of communicating sounds in our day-to-day interactions

For this activity, we will be role-playing! There will be a short story, in which a group of students will go around to the different “towns” in the story asking the same question to each town. The “towns” will be the sets of tables, where 3-4 kids will remain. These 3-4 kids will be given specific instructions to how they have to respond to the group of kids going around to the towns asking the question. One town will answer while shouting at the group, one town will answer in a whisper, one town will answer with an emphasis on one word, one town will answer with an emphasis on another word, and one town won’t answer at all. In this, the point is to show the students how we can use our voices to communicate different feelings and emotions to each other. After having the students sit back down, we will discuss how the group felt when being answered in each way.

Emphasize voice inflections, dramatizing words to make different meanings, and what silence communicates.

### **Beginning Story**



Once upon a time, a group of friends were playing together in a neighborhood. They suddenly realized that the dog in the house was missing. So they decided to go on a search to find their dog friend. He couldn't have gone far!! So, they thought it would be a great idea to knock on some of the house doors in the neighborhood to see if their neighbors had seen the dog.

The first door that they arrived at, the group of friends knocked. When the door opened, they asked a simple question: *Excuse me, but have you seen a cute and furry dog?* The first house answered **in a medium voice**, "No, I'm sorry."

The group decided to knock on the next door asking the same question. This time, the answer was **in a shouting voice**, "Go away and stop bugging us!" The kids, feeling kinda sad, decided to continue on.

The next door bell that they rung, answered **emphasizing**, "I don't know where your dog is," and continued with, "Maybe you should ask next door." Filing back onto the sidewalk, the group of friends made it to the fourth door.

This time they were answered **in a whisper** that said, "No, is the dog okay?" Offering to help, the group said no thank you and continued on to the fifth house.

After knocking a couple of times, the door opened and the neighbor answered **without words**. Confused and tired, the group continued to a final house and knocked on one last door.

This time a younger kid opened the door and answered them **emphasizing**, "I **do** know where your dog is! He is right here!" Excited and relieved, the group of friends ran back to their house and played with their dog the rest of the night.

- 10:00-10:30-- Listen to different sounds of songs for the emotions we feel. Each song and sound gives off a different emotion and that is how we communicate!

A guest guitarist is going to come in and bring a couple of different instruments (xylophone). By playing different instruments and songs, we can express different feelings. Categories of emotions are listed on the board, and children are given post-it notes. After each song, children can use their post-it notes to indicate how the song made them feel.

10:30- 11:00—BREAK

11:00- 11:30—Short "listening" field trip outside for fifteen minutes to listen to the sounds of the environment. Then, listen with ears plugged for five more minutes to see how it is different. Go back inside and discuss observations.

11:30- 11:45—Transportation sounds. Draw one of the sounds that they heard outside (for example, a car). Play part of the song "August Rush", which depicts "city" sounds in part of the song. Have students listen these sounds are and try to recognize each sound. (Turning off the lights during this activity may help children focus).

11:45- 12:00—Journal writing/drawing.

**Saturday Science “Sounds Like Fun” -- Week 5**  
**Theme: Acoustics**

Field trip to the IU Theater to observe acoustics.

After the weekly sign-in and nametags, children walked in pairs (holding hands) to the IU Theater. The acoustics of the foyer were discussed, first as children experienced the echoes there.

They children then went into the auditorium, where we experimented making echoes from the stage, the back of the main floor, the balconies. The children were divided into two groups, each with a teacher, and they observed the sounds each group made from various vantage points. (Sounds produced were claps or short vocalizations)

Discussion followed.

10:30-11:00 Return to classroom for BREAK/SNACK

11:00-11:10- Demonstrations with string. Recalling the demonstrations on guitar from the previous week, (longer, looser, lower the pitch...) the children experimented with string tied to the spigots in the center of the science tables to produce sound of varying pitch.

11:10- 11:45- Making rubber band + tin can “stringed instruments” and sharing. Students were given tin cans, rubber bands, cardboard squares, and plastic squares to use in exploring ways to invent stringed instruments. Each student was given the opportunity to “show and tell about” his/her creation.

11:45-12:00 - Journal pictures.

**Saturday Science “Sounds Like Fun” -- Week 6**  
**Theme:**

Short discussion: How scientists use sound to identify animals in the field.

Activity: Coloring frog pictures and listening to frog calls.

Each child was given a color-by numbers book (teacher created four diagrams from photos of frogs to make a booklet for each child) to work while listening to a CD of “Frog and Toad Calls”. The specific calls of the frogs and toads in the coloring booklets were demonstrated first.

Activity: "Leap frog" (did not turn out as well as planned: some children know the game, some do not. Boys tended to get too rowdy, girls complained. We cancelled the activity.)

BREAK/SNACK

Activity: Remaking the tin can stringed instruments from last week and sharing with parents.

OPEN HOUSE/ END.