ANCHORAGE MUSEUM

SOUNDS OF YOUR PLACE

BACKGROUND INFORMATION

Since 2018, the Anchorage Museum has partnered with schools and organizations, including the Campbell Creek Science Center, to record and collect the dynamic soundscapes of Alaska. This lesson introduces students to the scientific field of soundscape ecology and gets students outside and listening to the sounds of their local place.

STUDENTS WILL:

- Discover how to utilize our sense of hearing to make observations of the natural world
- Practice close listening
- Learn how soundscape ecology helps scientists understand different environments and how they change and evolve over time
- Use data sheets to make and record observations
- Think critically and support answers with evidence

MATERIALS

Activity 1 & 3: Computer or tablet with internet connection
Activity 2: To be done away from a device at your own listening site. You can print the Appendix Activity Sheets found at the end of this lesson or write down the Appendix questions on another sheet of paper.

RECOMMENDED GRADE LEVEL

Sixth through eighth

Adapt for K-12 and adult learners

KEY TERMS

Soundscape: all the sounds in a particular place

Soundscape Ecology: the science of studying soundscapes to better understand a place and the relationships between organisms and that place

Soundscape Ecologists: scientists who study soundscape ecology

Biophony: sounds made by living things, but not people

Geophony: sounds made by the earth

Anthrophony: sounds made by people and machines

ACTIVITIES

This lesson plan provides three activity options and explains each of them in detail on the next page. Complete one or more activities following this suggested order.

Activity 1: Introduction to Soundscapes
Activity 2: Listen to Outdoor Soundscape
Activity 3: Why Study Soundscapes
Extension Activity: Be a Soundscape Ecologist

This lesson plan was created with support from:

ATWOOD FOUNDATION
Alaska AIRLINES
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ACTIVITY 1

Introduction to Soundscapes

[10 minutes]

In this activity, you will practice close-listening to learn about soundscapes and sound categories. Complete **Appendix A** to guide your learning.

ACTIVITY 2

Listen to Outdoor Soundscape

[10 minutes]

In this activity, you will select your own outdoor listening site where you will listen carefully and record your observations in **Appendix B**.

ACTIVITY 3

Why Study Soundscapes

[10 minutes]

In this activity, you will compare and contrast soundscapes recorded at the same location on the same day, but from different years. Complete **Appendix C** to guide your learning.

EXTENSION ACTIVITY

Be a Soundscape Ecologist

[10 minutes daily for several days or weeks]

In this activity, you will research how your outdoor soundscape changes over time. To collect data, you will repeat the sound map from Activity 2 at the same location over several days or weeks. Try listening during different times of day or in different weather conditions. **Appendix D** is a printable sound map data collection sheet. Remember you can always create your own on another sheet of paper.

After you have completed several sound maps, compare them. Are there sounds you always hear? Are there sounds you only heard once? Are the sounds at your site primarily biophony, geophony, or anthrophony?

ADDITIONAL OBSERVATION ACTIVITIES

If you want to continue making outdoor observations, follow these links to other Anchorage Museum lessons:

- Science Passport: Window Phenology
- Science Passport: Ground Exploration
- Citizen Science: Repeat Photography

All Anchorage Museum lessons can be found on the Educator Resource webpage, including more soundscape ecology activities coming soon.

Visit the Campbell Creek Science Center's website to explore another version of a Sound Map.

INTRODUCTION TO SOUNDSCAPES

1. Take 30 seconds wherever you are to listen to your surroundings. Try to be as still and quiet as possible. List all the sounds you hear:

You just listened to a soundscape. A soundscape is all the sounds in a particular place. Soundscapes are unique to a specific place and time. Watch **this video** *to meet an Anchorage Museum Educator and learn about soundscapes.*

This is the type of recorder the Anchorage Museum has used to record sounds near the Campbell Creek Science Center since 2018.

Watch **this video** *to get an overview of what the Campbell Creek recording site is like.*

2. Follow **this link** to listen to a sound clip recorded at Campbell Creek on April 16, 2019. You might not be able to identify all the sounds, but list as many sounds as you can:

Soundscapes may contain many different sounds. Scientists that study soundscapes divide sounds into three categories:

Biophony: sounds made by living things (but not people); examples include birds and mosquitoes
Geophony: sounds made by the earth; examples include rain, waves, and landslides
Anthrophony: sounds made by people and machines; examples include laughter, footsteps, and cars

Watch **this video** *to learn more about these sound categories.*

3. Take the list of sounds you made in question 2 and categorize these sounds into sound categories:

Biophony	Geophony	Anthrophony

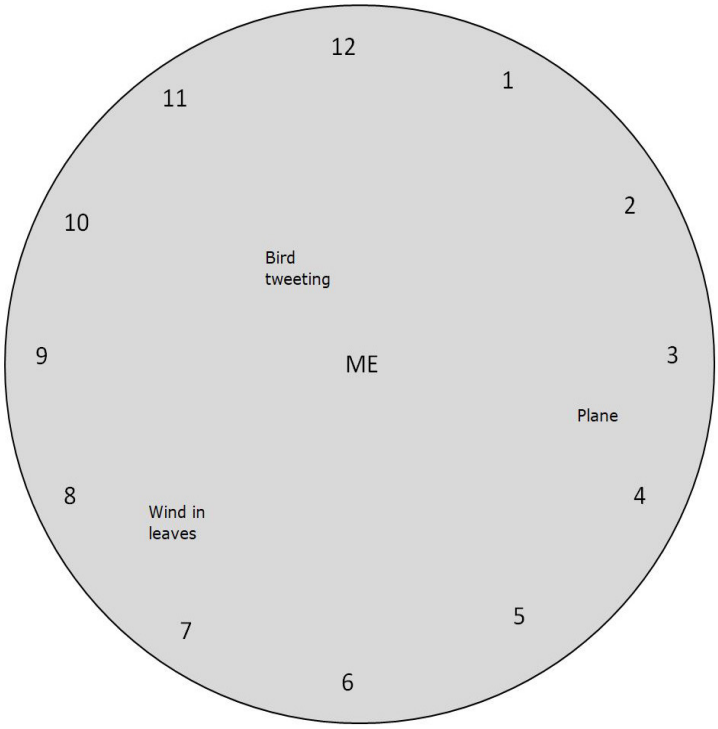
LISTEN TO OUTDOOR SOUNDSCAPE

Print this Appendix or write down these questions on another sheet of paper and bring this paper with you.

1. Go outside and choose a place where you can silently sit or stand while you listen. Draw or write what this place is like. Consider: What is around you (buildings, trees, road, other)? What are you standing on? (pavement, grass, balcony, other)?

2. Why did you choose this place? What types of sounds do you think you will hear at this site?

3. Create a sound map of everything you hear for at least two minutes. Imagine you are in the middle of a clock with 12 o'clock directly in front of you. Record each sound you hear on the clock on the next page or on your separate paper. Write or draw each sound on the map in the approximate direction and distance from which you hear the sound coming. See this example:



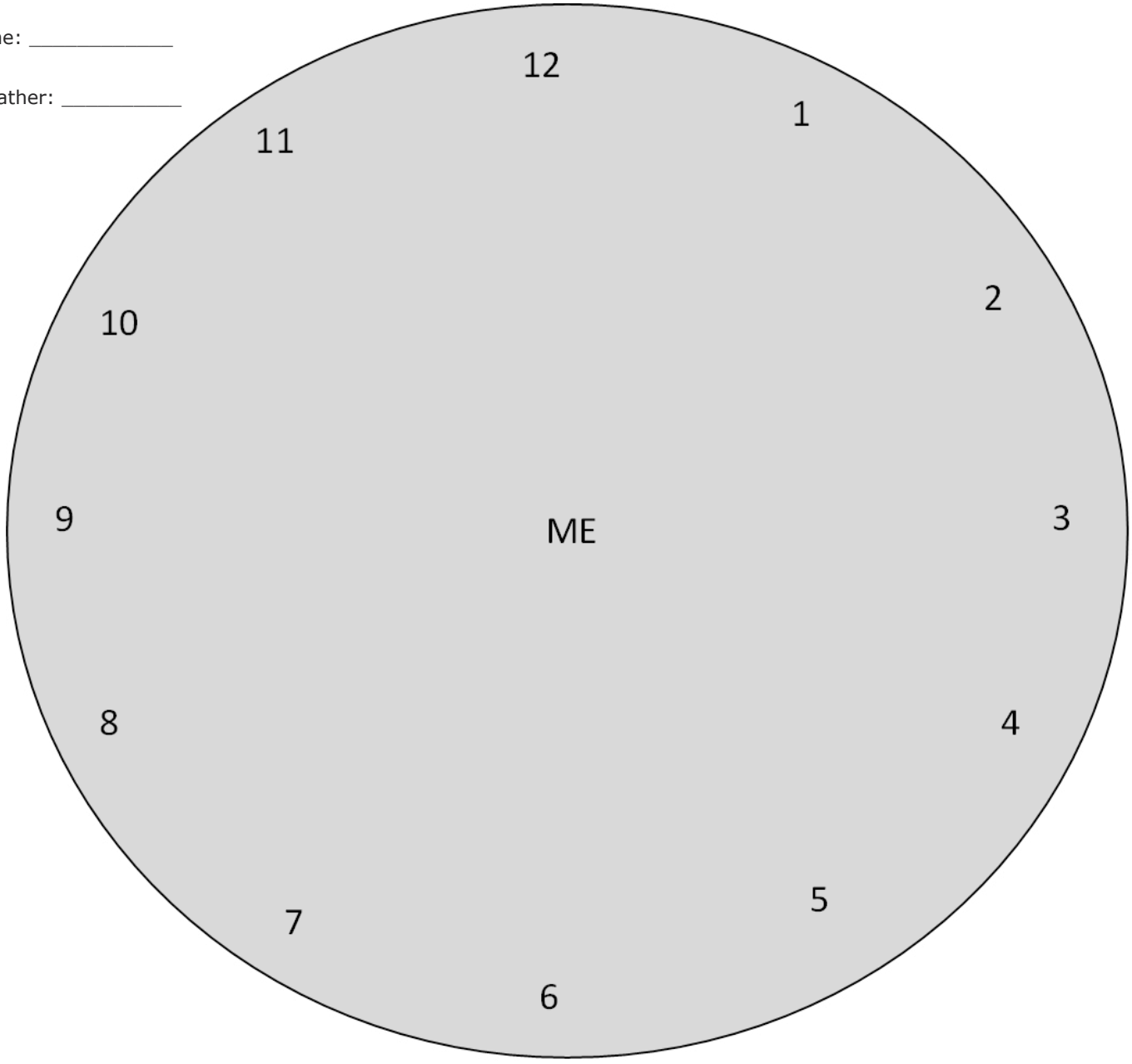
LISTEN TO OUTDOOR SOUNDSCAPE

My Sound Map

Date: _____

Time: _____

Weather: _____



4. Sort the sounds you heard into sound categories.

Biophony	Geophony	Anthrophony

LISTEN TO OUTDOOR SOUNDSCAPE

5. What types of sounds did you hear the most frequently?

6. What sound was the most surprising? Why?

7. Could you see all the things that you heard?

You most likely could not see everything you heard. This is one reason scientists study soundscapes: listening helps them learn more about place because they hear things they cannot see.

WHY STUDY SOUNDSCAPES

*Watch **this video** to learn why people study soundscapes.*

Soundscape ecologists are people that study soundscapes. They use the sense of hearing as a way to understand a particular environment and observe how the unique soundscape may change over time. Studying soundscapes allows scientists to gain greater insight about an environment by providing information about that place that they may not otherwise observe.

*The Anchorage Museum has recorded sounds near the Campbell Creek Science Center since 2018 to observe how the unique soundscape of this place may change over time. Watch **this video** to learn more about the Campbell Creek site. Answer the following questions as you listen to sound clips recorded at the Campbell Creek site on April 16 in three separate years: 2018, 2019, and 2020.*

1. Follow **this link** to listen to the 2018 Campbell Creek Soundscape. List the sounds you hear.

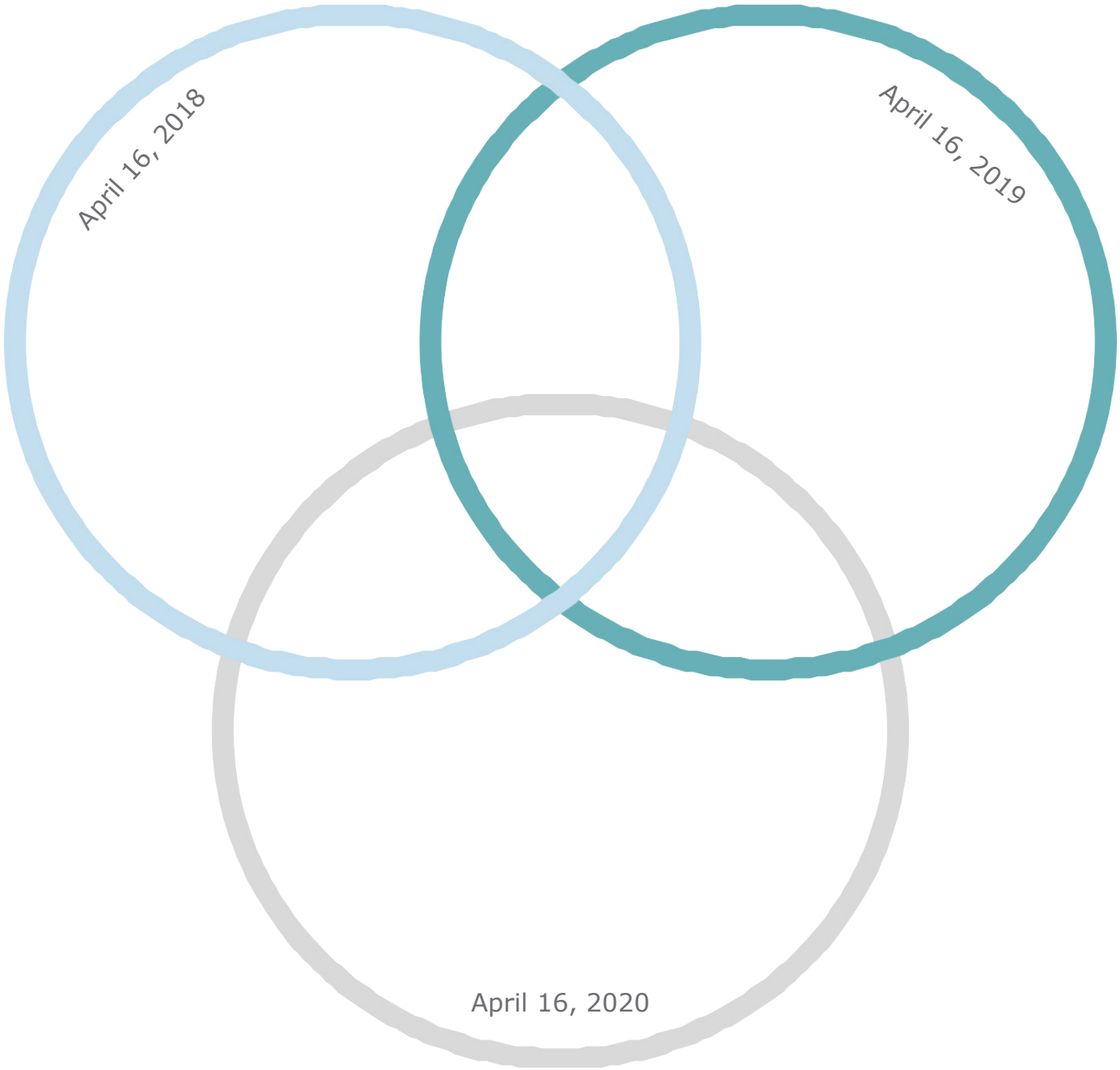
2. Follow **this link** to listen to the 2019 Campbell Creek Soundscape. List the sounds you hear.

3. Follow **this link** to listen to the 2020 Campbell Creek Soundscape. List the sounds you hear.

Soundscapes are unique to their time and place; not only do they change when you listen in a new environment, but the exact same environment has different soundscapes at different times. Places sound different throughout the day, in different seasons, and over years and decades.

WHY STUDY SOUNDSCAPES

4. Take all of the sounds you heard in the three Campbell Creek soundscapes and sort them into this Venn Diagram.



5. Are there any sounds you heard in all three sound clips?

Although three years of recording captures only a small snapshot of the soundscapes of this place, these three clips suggest some of the key sounds of the Campbell Creek site in April.

WHY STUDY SOUNDSCAPES

6. How are the three sound clips different? Did the Campbell Creek soundscape change over time? Did you hear more or less of one sound category (biophony, geophony, or anthrophony) in certain years?

7. How could you use soundscape ecology and audio recordings to study an environment? What are some benefits to using audio for making observations?

BE A SOUNDSCAPE ECOLOGIST

Print this Appendix or write down these questions on another sheet of paper and bring this paper with you.

1. Return to the outdoor place you selected in Activity 2. Sit or stand in the same direction you did for your other sound maps.

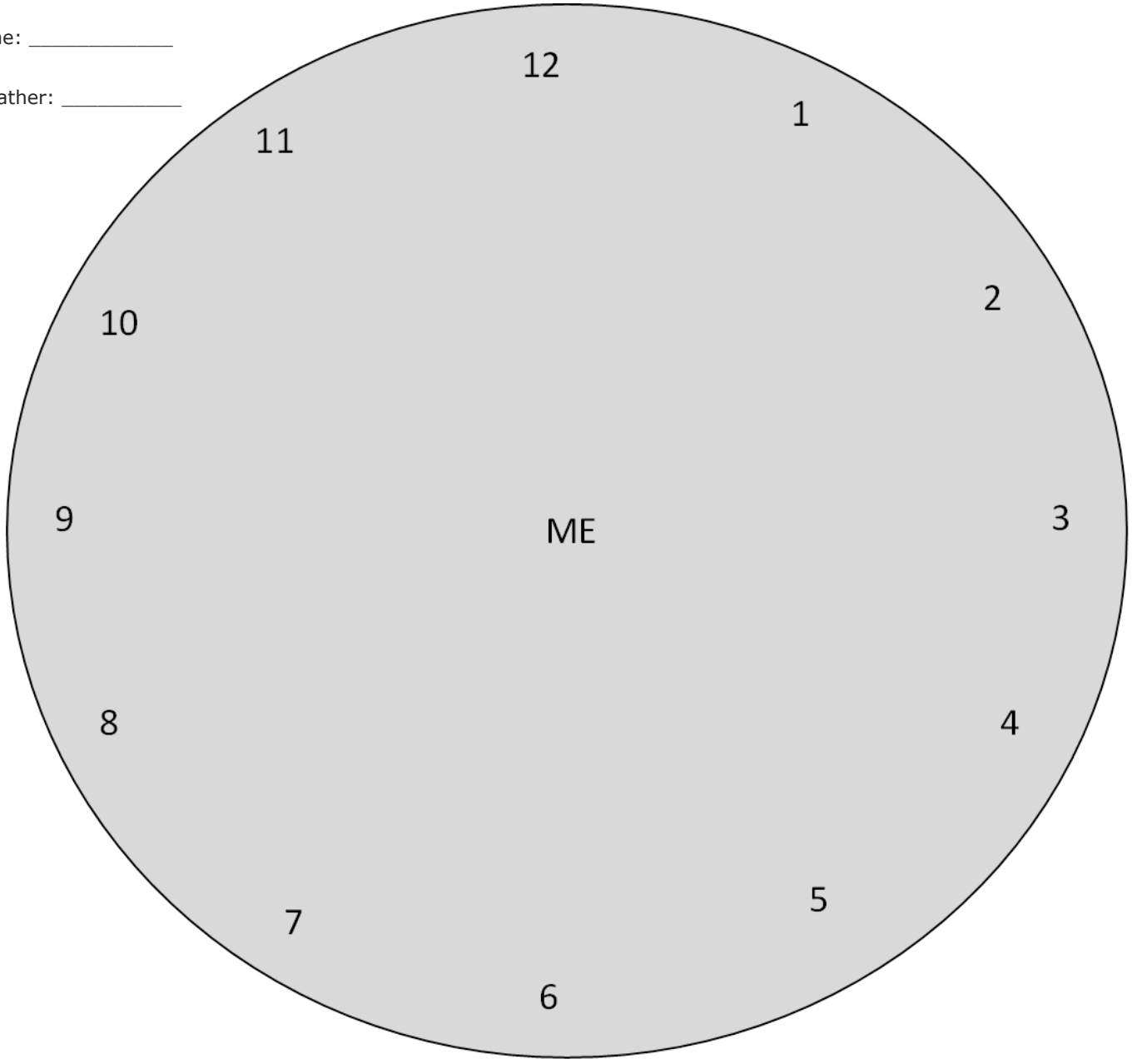
   Create a sound map of everything you hear for at least two minutes. Imagine you are in the middle of a clock with 12 o'clock directly in front of you. Record each sound you hear on the clock on the next page or on your separate paper. Write or draw each sound on the map in the approximate direction and distance from which you hear the sound coming.

   My Sound Map

Date: _____

Time: _____

Weather: _____



BE A SOUNDSCAPE ECOLOGIST

2. Sort the sounds you heard into sound categories.

Biophony	Geophony	Anthrophony

3. What types of sounds did you hear the most frequently?

4. What sound was the most surprising? Why?

After you have completed several sound maps, compare them. Are there sounds you always hear? Are there sounds you only heard once? Are the sounds at your site primarily biophony, geophony, or anthrophony?