
Nature Symphony

Schoolyard Sound Mapping



Purpose:

- This activity is designed to foster an interest in bird language by introducing students to different bird songs and calls, and prompting students to consider why birds vocalize.

Objective:

- Students will record the bird calls and other sounds they hear in nature by drawing, mapping or writing.
- Students will inquire what factors might affect birds' songs and calls and identify the different bird calls as well as their meanings.

Time Required: 20-30 minutes

Appropriate Grade Level: 1st- 5th

NGSS:

2-LS4-1:

Make observations of plants and animals to compare the diversity of life in different habitats.

3-LS4-2:

Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.

Materials:

- Blank sheets of paper
- Pencils
- Clipboards or hard surface to write on

Activity:

Introduction	<ul style="list-style-type: none">● Ornithologists, scientists who study birds, often rely on their sense of sound when doing research in the field. Many birds are hard to spot with the naked eye, but their presence can be recorded by successful identification of bird songs and calls.● This activity is designed to encourage students to channel their awareness and engage their senses in order to “tune in” to the many things happening in the natural world around them.
---------------------	---



	<ul style="list-style-type: none"> ● Inform students that they should intentionally listen and record the sounds they hear, paying close attention to the varying bird calls and where these bird calls are coming from in relation to the students' location. ● This activity can be done in a schoolyard, or on a field trip into a natural area. Try to find an area where birds are present and different calls can be distinguished.
Body	<ul style="list-style-type: none"> ● Find an area where students can sit alone, undisturbed by human activities. Assign (or let students choose) a special spot, far enough away from fellow classmates, where they can listen and take notes. ● Explain that students are to record in writing the "Nature Symphony" that they hear from their spot. The symphony can be recorded in a number of ways: <ul style="list-style-type: none"> ○ The students can make drawings, write poems or use descriptive words ○ They can map the sounds they hear, and on a clean sheet of paper, mark the middle with an "x" where they are seated and represent in words or drawings the sounds and locations of these sounds they hear. Encourage students to label North, East, South and West on their sound maps. ○ They can simply list all the different sounds they hear, trying to distinguish as many as possible. ● Allow an appropriate amount of time (10-15 minutes +, depending on your audience) and bring the students back in. Have them share some of the sounds they heard and/or anything they discovered that they found interesting or had questions about. ● If students were in an area where birds were present, have them talk amongst each other about the different bird calls they heard.



	<ul style="list-style-type: none"> ● Inquire with students: <ul style="list-style-type: none"> ○ Why do you all think birds vocalize? ○ What are they trying to communicate? ○ Do you think that birds have different calls for different purposes? If so, what types? ○ Did anyone hear/see the same bird making different calls? ● What are some ways a scientist could study bird communication?
Closure	<p>After this activity, take students back into the classroom and have students write on the board: “What do you notice? What do you wonder?” After students have been giving the opportunity to ask questions, work together to answer them!</p> <p>Share with students the five “voices” of birds:</p> <ul style="list-style-type: none"> ● <u>Song</u>: Birds sing to give thanks, announce their presence, and define their boundaries or territory. ● <u>Companion Calling</u>: Birds do this to keep track of each other when separated. Usually a small noise that is shared back and forth between two or more birds. ● <u>Juvenile Begging</u>: This occurs when young birds are vying for attention when the parent returns to the nest to feed and is common in the spring. ● <u>Male to Male Aggression</u>: This call can sound alarming but it is not an alarm call. During mating season males often squabble over territory or potential mates and chase each other around. ● <u>Alarm</u>: This represents danger, and is designed to convey that there is a threat nearby. An alarm can be a loud sound, or it can be silence. <p>Remind students that every species of bird has unique calls from other species, and the 5 above bird “voices” all sound different.</p> <p>Extension: Look up varying bird calls from the same bird (for example: a Stellar’s jay’s alarm, song, companion call, etc.) so students can hear the difference. Ask students which call(s) they think they heard when they were doing the activity and why.</p>
Assessment	<p>The discussion, inquiry and questioning in Step 5 act as a formative assessment.</p>



Modifications:

Middle School:

- After students complete the activity, they should know how to listen carefully to the noises in the forest, and identify where they are coming from. Have the students comment about what factors might affect birds' songs. For example, when do birds sing, where do birds sing, what time of year do most birds sing, etc.
- Have students come up with measurable ways that they can determine what factors affect bird songs. For example, count songs in the morning and in the evening, count songs in the forest and in the meadow, or count songs in the spring, fall, and summer. Or, observe one specific species of bird and listen to its varying calls. Try to identify which of the 5 bird voices these calls are.
- Have each student select one way to test bird song abundance and develop it into a question. For example, will there be more birds singing in the morning or at midday; or, will there be more birds singing in the forest or in the meadow?
- The students need to develop their questions into hypotheses that can be tested. For example, there will be more birds singing in the morning because there are fewer predators awake, or there will be more birds singing in the meadow because they can hear each other farther apart.
- Let them design and carry out the experiments to test their hypotheses. You will need to guide them in figuring out how to measure the proper variables, in order to prove or disprove the hypotheses.

