

Teacher Tips Sound

Lesson 4.1

Representing Sound

Ask, Imagine, Plan



- Show one bird picture at a time as students listened to the bird calls.
- Emphasize that the students only need to represent pitch and duration.
 - Have them look at their Alarm Call representations to remember that this is what they did before.
- Make sure when you are distributing the names of the birds to the student groups, you ask them to keep it a secret. This helps build anticipation for the final design challenge.
- Worksheet 4-6 can be difficult for the students to do on their own, use overhead or doc camera to work through the materials and the worksheet as a class.
- Parts are not when the pitch changes but when the bird 'takes a breath' or pauses in the middle of the call.
- Model how to represent the basic loon as a class.
- Asking questions like: "How many parts are there?" "Are they short or long?" "How high or low are the pitches?"
 - These simple questions really help students break down the sounds into more manageable pieces.

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Lesson 4.2

Representing Sound

Create, Improve



- Once students have completed their designs, have each small group hang their representation systems on the board and ask them to briefly explain their representation system to the class. Then, play tracks 4-8 on the Bird Sound CD and have the rest of the class vote (by a show of hands to save time) which bird they think that group represented.
- For IMPROVE, discuss what they might change about their system. Or provide each group with a different bird call, and have them use their system. Does it work for another bird?
- As closure to the unit, give (or ask for) examples in the Twin Cities where acoustical engineers have helped in designing buildings and other structures. Examples the students were all familiar with included: Orchestra Hall, sound barriers along the freeways, and Target Field's use of microphones and loudspeakers. In the school, ceiling tiles are also an example for damping sounds.