

# Lesson 5.04: EarSketch User-Defined Functions ## Learning Objectives Students will be able to... \* Define and identify: **abstraction**, **section**, **A-B-A form** \* Create and apply user-defined functions to create songs with complicated form ## Materials/Preparation \* [Do Now] \* [Lab - User-Defined Functions] ([printable lab document]) ([editable lab document]) \* [EarSketch Editor] \* Associated Reading in EarSketch \* Read through the do now, lesson, and lab so that you are familiar with the requirements and can assist students ## Pacing Guide | **Duration** | **Description** | | ----- | ----- | | 5 Minutes | Do Now | | 10 Minutes | Lesson | | 35 Minutes | Lab | | 5 Minutes | Debrief | ## Instructor's Notes ### 1. Do Now \* Students should be given time to read unit 4 of the EarSketch documentation. \* Students should answer the questions included in the do now and be prepared to discuss them as a class. ### 2. Lesson \* Call on students to discuss the answers to the questions from the Do Now. \* Recap the following key concepts from the reading: \* **Section**: generally refers to several measures of music (often 2, 4, 8, or 16 measures) that sound like a single musical unit. \* **A-B-A Form**: a song divided into three sections: \* Section A: measures 1-4. \* Section B: measures 5-7. Features contrasting sounds to Section A. \* Section A (repeated): measures 7-10. \* Ask students about returning the measure number. \* Go over the concept of passing around the measure number and make sure students understand how it would be helpful. \* Since it allows you to change how long/short sections are without updating every function ### 3. Lab \* Demo a song with **A-B-A Form**: [![Somewhere over the Rainbow](https://img.youtube.com/vi/PSZxmZmBfnU/0.jpg)](https://www.youtube.com/watch?v=PSZxmZmBfnU) \* Students create their own song with the form ABABAB. ### 4. Debrief \* Talk about any of the phrases or issues the students had. \* If time allows, give students the opportunity to demo their songs for the class. ## Accommodation/Differentiation Students that are moving quickly could explore and create alternative song forms (ex. AABA). ## Forum discussion [Lesson 5.04: EarSketch User-Defined Functions (TEALS Discourse Account Required)](https://forums.tealsk12.org/c/2nd-semester-unit-5-earsketch/lesson-5-04-earsketch-user-defined-functions) [Do Now]: do\_now.md.html [Lab - User-Defined Functions]: lab.md.html [EarSketch Editor]: http://earsketch.gatech.edu/earsketch2/ [printable lab document]: https://github.com/TEALSK12/2nd-semester-introduction-to-computer-science/raw/master/units/5\_unit/04\_lesson/lab.pdf [editable lab document]: https://github.com/TEALSK12/2nd-semester-introduction-to-computer-science/raw/master/units/5\_unit/04\_lesson/lab.docx