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| **Topic/ Duration** | Effects with Envelopes / 35 minutes / 1 Class Period |
| **Priority Standards** | **Georgia Music Technology**   1. [**MSMTC6.PR.3**](https://case.georgiastandards.org/f3b94c72-9c0d-11e8-b85c-3b1a3079ae6e/7c997874-fc0f-11ea-a163-0242ac150004/2018)**-**Develop personal interpretations that consider creator intent. |
| **Supporting Standards** | **Georgia Music Technology**   1. [**MSMTC6.PR.5**](https://case.georgiastandards.org/f3b94c72-9c0d-11e8-b85c-3b1a3079ae6e/bbb5977c-fc0f-11ea-a47c-0242ac150004/2022)Perform expressively, with appropriate interpretation and technical accuracy, in a manner appropriate to the audience and context.   **Foundations of Computer Programming**   1. **[MS-CS-FCP-3](https://case.georgiastandards.org/00fcf0e2-b9c3-11e7-a4ad-47f36833e889/35695273-4888-4f59-89a5-45ef323b432f/563):** Utilize computational thinking to solve problems. |
| **Student Facing Goals** | Students will be able to...   * use envelopes with effects in their music to create musical changes throughout the piece. |
| **Essential Question & Enduring Understanding** | **Why do composers and songwriters create changes in volume and effects in their music?**  *Composers and songwriters create changes in effects in a piece of music because different sections of the piece will require different things for maximal emotional expression. This helps to better tell the story.* |
| **Evidence of Learning** | **Formative:** Students will use at least 3 envelopes with effects in their project. They will be assessed on using the correct parameters for the setEffect() function and correct parameter values.  **Summative**: Unit Project |
| **Materials** | Computer  EarSketch |
| **Vocabulary** | * **Envelope:** allows us to add effects to smaller portions of a track and define how an effect’s parameters change over time. |

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| **Resources** |
| 1. Slides about effect envelopes: U5L2 - Effects with Envelopes Powerpoint 2. EarSketch: <https://earsketch.gatech.edu/earsketch2/> 3. Envelope example script <https://earsketch.gatech.edu/earsketch2/?sharing=iICwXfZp8XdQt69WCvRjVAk> 4. Envelope debug script: <https://earsketch.gatech.edu/earsketch2/?sharing=iICwXfZp8XdQt69WCvRjVA> |
| **Teacher Preparation** |
| 1. Know sections of an example song that shows changes in effects. 2. Prepare questions for opening discussion. |

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| Lesson Implementation |

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| **Engage (Making Connections) / Explore Time: 5-10 minutes *Slides 4-6*** | |
| **Section Goal:** Students will learn about effect envelopes. | |
| **Student Activities**   * Participate in class discussion regarding the effects that they’ve explored in the shared scripts. | **Teacher Activities**   * Share a song that shows examples of changes in effects in a piece of music (Slides 4-6). One example that can be discussed is Alicia Keys’ *Underdog.* * This song uses strong reverb on the snap and percussion parts. * Around timestamp 2:54, the percussion parts become a bit more crisp (due to the lack of reverb) and may have a bit of compression added to them. * Share a script that contains effects and envelopes with students (an example script can be found in the resources section). Encourage students to explore the effects. Facilitate a discussion with students about the use of effects in the script. Why do they think those specific effects were used? Does the music sound different with/without the effects? * Demonstrate using an envelope with an effect in EarSketch. |
| **Coding Connections:** Using the SetEffect function in EarSketch | |

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| **Explain: Understanding Time: 10-20 minutes  *Slide 7*** | |
| **Section Goal:** Students will demonstrate their understanding of effect envelopes by implementing a single envelope in an EarSketch script. | |
| **Student Activities**   * Modify an existing script by adding an effect envelope. | **Teacher Activities**   * Instruct students to select one of their previous scripts that contains an effect. (The example script utilized above can be found on Slide 7). Once a script has been selected, students should be instructed to add an envelope to one of the effects. Monitor student work and offer support/feedback as needed. |
| **Coding Connections:** Using the setEffect() function in EarSketch. | |

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| **Elaborate: Apply your Skills Time: 5-10 minutes  *Slides 11-15*** | |
| **Section Goal:** Students will demonstrate an understanding of effect envelopes and their use in music by describing why they’ve selected certain effects and how they’ve enhanced or added meaning to their songs. | |
| **Student Activities**   * Students will apply two more effects with envelopes to their coding project. They will describe why they decided to add the effect to their music and why they decided to change the amounts of effects in their music. | **Teacher Activities**   * Instruct students to add two more effects to their projects. Encourage students to think about the message of their song(s). Are there any effects that may help communicate their mesage? Feel free to offer time for a think-pair-share here. * Monitor student work and offer help and feedback if necessary. Activity links and further information about envelopes can be seen on (Slides 11-15). |
| **Coding Connections:** Using the setEffect function in EarSketch. | |

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| **Evaluate:** Assessment / Wrapping Up  **Time:** 5 minutes  ***Slide 16*** | |
| **Section Goal:** Students will further develop their understanding of effect envelopes by debugging a script that contains effects. | |
| **Student Activities**   * Figure out what parameters are incorrect in the script for each effect. | **Teacher Activities**   * Share a script containing effects with students (Slide 16). Instruct students to independently debug the script. * Do not help students or provide feedback. This is to see how well students understood the information given to them. |
| **Coding Connections:** Decoding code | |

Activity Link:

[Effect Envelope Page](https://gtvault.sharepoint.com/:w:/s/EarSketchCSforAll2021Proposal/EYWYgXqq9y9AuxurH46bdOQBMasvkQv-9WHMsAuyYeygTw?e=0IbgwL)