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| **Topic/ Duration** | Effects/ 45 minutes /2 Class Periods |
| **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 effects in their music to help tell the story of the song and connect to the emotional meaning of the music. |
| **Essential Question & Enduring Understanding** | **Why do composers and songwriters add effects to their music?**  *Composers and songwriters add effects to their music to add personal interpretation to their music.* |
| **Evidence of Learning** | **Formative:** Students will debug a pre-written EarSketch script to show they have proper understanding of the parameters for this function and the different effects.  **Summative**: Student’s Unit Project |
| **Materials** | Computer or Laptop  Headphones  EarSketch |
| **Vocabulary** | * **Distortion:** creates a “dirty” or “fuzzy” sound by overdriving the original sound. * **Panning:** affects the audio mix between the left and right channels. * **Reverb:** adds a slowly decaying ambiance to the source signal, which is similar to DELAY but is often much denser and richer. * **Delay:** creates a repeated echo-like delay of the original sound. * **Chorus:** creates various copies of the original sound which get varied slightly in pitch and time, and mixed back into the sound, creating an ensemble-like effect of many voices playing together. |

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| **Resources** |
| 1. Slides about different effects: U5L1 – Effects PowerPoint 2. EarSketch: https://earsketch.gatech.edu/earsketch2/ 3. EarSketch effect example script: <https://earsketch.gatech.edu/earsketch2/?sharing=0TPE7T3Yo72_Et44ul8wKA> |
| **Teacher Preparation** |
| 1. Select a song ahead of time that uses one of the effects students will learn about during the class. 2. Have additional materials in an accessible place for students if they need to look further into effects or need help with this topic. |

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| Lesson Implementation |

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| **Engage (Making Connections) / Explore Time: 5-10 minutes *Slides 4-8*** | |
| **Section Goal:** Students to listen to and learn about music effects. | |
| **Student Activities**   * Participate in class discussion. * Consider why effects are used in music? | **Teacher Activities**   * The teacher will start the class by playing a song that uses one of the following effects:   + Delay   + Chorus effect   + Distortion   + Panning   + Reverb   + (Slides 4 -7*)* * The teacher will also run code in EarSketch that contains an effect. Students should listen to the script with and without the effect (Slide 8). Students should consider questions such as: Why do we add effects to music? As well as: What are benefits of adding effects to music? |
| **Coding Connections:** Using the setEffect function in EarSketch | |

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| **Explain: Understanding Time: 20-30 minutes *Slides 14-17*** | |
| **Section Goal:** Students will demonstrate their understanding of effects by adding effects to their scripts in EarSketch. | |
| **Student Activities**   * Students will be paired up and assigned a different effect to research from the list below:   + **Reverb**   + **Delay**   + **Distortion**   + **Filter**   + **Pan**   + **PitchShift**   + **Chorus** * Afterwards students will add these effects to music in EarSketch (Slides 14-17). | **Teacher Activities**   * Assign students to pairs and instruct them research an effect. * Monitor student work and offer help and suggestions as needed. * Demonstrate how to add effects to scripts in EarSketch. Students should be given 10 minutes to explore effects and add them to their scripts. |
| **Coding Connections:** Using the setEffect function in EarSketch. | |

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| **Elaborate: Apply your Skills Time: 5-10 minutes *Slide 17*** | |
| **Section Goal:** This section’s goal is for students to provide further feedback on why they used certain effects in their music. See links below for additional materials. | |
| **Student Activities**   * Students will be given time to describe why they used a particular effect in their music. Student should write 2-3 sentences (Slide 17). | **Teacher Activities**   * Monitor student work and offer help and suggestions as needed. |
| **Coding Connections:** Using the setEffect function in EarSketch. | |

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| **Evaluate:** Assessment / Wrapping Up  **Time:** 5 minutes *Slide 18* | |
| **Section Goal:** Students will demonstrate an understanding of using effects in EarSketch as well as the correct parameters for each effect by debugging a pre-written script. | |
| **Student Activities**   * Students will be given an EarSketch script. It will be up to them to figure out what parameters are incorrect in the script for the effects (Slide 18). | **Teacher Activities**   * Do not help students or provide feedback. This is to see how well students understood the information given to them. |
| **Coding Connections:** Decoding code | |

Links to Additional Effect Examples:

[Chorus Effect](https://gtvault.sharepoint.com/:p:/s/EarSketchCSforAll2021Proposal/EZdDhPSHXfVEuBYi0T_U6s4BBuLuv798CYAH7cCj12NEUw?e=nGmvVp)

[Distortion and Panning](https://gtvault.sharepoint.com/:p:/s/EarSketchCSforAll2021Proposal/EUv-qKVI8K5GgqQZARSvo2IBtD0BgTv56BOuLSDqJiywzw?e=Q4m4Vh)

[Delay and Reverb](https://gtvault.sharepoint.com/:p:/s/EarSketchCSforAll2021Proposal/EZVzEL4hHPRLnQ_G6KCTVogBtTR6IMBhx8F-5hRk8EQL1Q?e=QaTEyJ)

Additional Worksheet Links:

[Chorus Effect](https://gtvault.sharepoint.com/:w:/s/EarSketchCSforAll2021Proposal/EecXpxGbN6xJjPQfZfPJuK4BA27FtzsUi9k_2QL3vJIrxg?e=rc6Rpa)

[Reverb and Delay Effect](https://gtvault.sharepoint.com/:w:/s/EarSketchCSforAll2021Proposal/EbN9zfP6JihLl0dWSztRRMIBooXMVDjh3VjatJt6tN4Bfw?e=LznoaR)

[Panning and Reverb Effect](https://gtvault.sharepoint.com/:w:/s/EarSketchCSforAll2021Proposal/Ecgkn-iYcTFMo2F4O8pbnykBcrwfq8VPt65O25lHKzJTVg?e=flxlu0)