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Technology Integration Workshop
2020

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| **Unit Title:** Coding |
| **Grade Level:** First Grade |
| **Subject Area:** Intro to Coding |
| **Duration/Length/Number of class periods:** 6 sessions*/10 possible lessons.* |
| **Description:** Students will learn to use coding and understand the purpose of the Working Wall and how to use the app code SparkAcademy to practice sequencing and connect their learning to how a developer uses coding to talk to a computer. |
| Established Goals **(National, State, Local):**<br>Readers retell stories in their own words ( sequence of events) MN standards for English Language Arts 1.1.2.2<br>ITEM Standard 1.2: Use evidence to investigate questions. (AASL I.B1) |

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| **What Enduring Understandings are desired?**<br>Students will explore fundamental coding concepts and learn to think like a coder.<br>Students will notice sequencing in their daily lives and apply it to coding. |
| **What Essential Questions will be considered?**<br>When do we use sequencing in our lives?<br>How is sequencing used in coding?<br>Why is it important to use sequencing when coding?<br>How do developers use coding? |
| **Students will know / be able to:**<br>Think like a developer. Learn coding together. |

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| **Description:** Introduction to coding<br>Day one: Develop a working wall of words for coding. Students will tell me about their favorite apps and what they use in school or out of school. How do you think developers get the characters to move? They create a character or image to add to the working wall with any questions they have. How do you think coding works? | Formative | Summative | Introductory Activity | Learning Activity | Student Technology Used | Teacher Technology Used | I |

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| Who does the word coding mean? Continue to add their definitions, image and questions to the working wall for the words “coding” and “developer”.<br>Ask questions about what they already know about these words and add their definitions to the Working Wall-( pictures, questions, definitions created by the class. Use a chart to record student definitions and questions first.)<br>*Coding- is telling a computer what to do.*<br>*Developer- writes code to build their own apps.* | X | | X | | | | |
| **Day Two: Explore codeSpark Academy**<br>Demonstrate on the projector or in a screencast how to locate the app on their iPads. (Set up teacher dashboard first). Students will find their names and look at the different chapters. Explore the different puzzles and come back for a discussion. They can take a picture of their favorite puzzle and share it in their SeeSaw Journal. Find the GameMaker chapter together and explain they will be able to make their own game and share it with others. Which character are you most excited about? ( Padlet) | | | X | X | iPads<br>code spark academy app<br><br>See Saw or Padlet | Screen castify<br><br>code spark academy app<br>See Saw and Padlet | |
| **Day Three: App Challenge!** Share the keynote presentation on different roles an app team can have. Use the keynote from page. 14 from *Get Started with Code 1* teacher guide. Interactive resources are built in the book. Students can draw themselves as an app designer and send it in their SeeSaw journal or use Flipgrid( need to teach) to show the class. | X | | | X | iPads<br>See Saw journal<br>Flip grid or Draw Desk app | iPad project the keynote presentation on from Page 14 in the Code 1 teacher guide | |

**Assessment:** After each lesson: Use rubric from Apple to help gauge where students are at in the process.

| | 1- Novice | 2 - Intermediate | 3 - Proficient | 4 - Mastered |
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| **Coding concepts** | With support, the student repeated the definition provided. | The student repeated the definition provided. With support, they connected the concept with an everyday example. | The student explained concepts with reference to everyday and coding examples. | The student provided generalized explanations of concepts and supported their explanations with relevant examples, in both everyday and coding contexts. |
| **Activity** | With support, the student followed instructions to complete the activity and share their reflections. | The student followed instructions to complete the activity. They shared their reflections with support. | The student completed the activity and reflection independently, explaining their solution with reference to coding concepts. | The student completed the activity and reflection independently, and supported other students to improve their solutions (debugging). They explained the problem and the solution with reference to coding concepts. |
| **Coding** | The student connected some of the block coding with the resulting action of the character. They required help to complete the levels. | The student required help to complete some levels. They successfully repeated levels independently following assistance. | The student completed all levels independently and could explain why their solutions worked. | The student completed all levels, attempted multiple solutions and created their own challenges within the level. |

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| Day Four: Introduction to Sequencing<br>Students will make a sequence based on a familiar story using cards. New vocabulary is: *Sequence. A sequence is the order in which things happen, like patterns and events.*<br>Ask students to tell a partner what they think is a sequence. Proceed to tell two more people like they are at a party. Share together the definition of a sequence and then put it on the working wall.<br>Activity: As a class, students will identify and order the steps in an everyday routine such as brushing their teeth. The class gives steps to brushing teeth and the teacher demonstrates the routine.<br>Ask: What would happen if the steps are out of order? Give picture cards out of order on SeeSaw or using actual cards for partners to use and put in the correct order. Share to journal or show me on the table. Closure: Identifying steps and putting them in the correct order, sequencing, is how we tell a computer what to do.<br>Day Five: Activity- Story Time<br>Read a familiar story to them using screen casting, video, or in person. Read <u>*Goldilocks and the Three Bears*</u> or something familiar. Put students into small groups. Each student draws an event from the story using paper or an app like notes or *Draw Desk* on iPad or *See Saw drawing tools*.<br>After completing the drawings, they can take a picture with their iPads of their work. Each group can share in front of the class to share their iPads with the class. They should be holding their iPad so the class can see their pictures. The audience helps by asking the group members to physically move to a different spot to put the events in order. The audience can take a picture of before and after the sequence is put in order.<br>Ask: Why is it important to provide events in the correct order? When we talk to a computer we need to give the computer instructions in the correct order.( Use rubric below to assess.)<br>Practice: Explore *codeSpark Academy* and play *Donut Detective*. Levels 1-8. Students are introduced to Gracie the Police Foo and use simple commands in a sequence to get the stolen donuts back from *The Glitch.*<br>Closure: Add the word sequence to the working wall with the photo of the everyday routine picture cards, picture of reordered story events, and a screenshot of the app. ( teacher)<br>Questions: (Students) What did you learn about sequencing when using the app? ( respond in a reflection circle or on Padlet Use rubric below to assess.) What was tricky about the story-sequence activity with your group? What would happen if we did not tell the right sequence of instructions to a computer? (If online learning, students would answer these questions in See Saw after working with someone at | X | X | X | | iPads<br>See Saw Journal | Show sequencing cards on projector from the Code 1 teaching guide on page 16 | |

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| home or alone.) They can upload their pictures from the digital drawings and record their responses to the questions. I would create a lesson on SeeSaw for each question and give directions using a quick screencast video on how to respond and reflect.<br>Day 6: Exploring the different uses for apps( optional activity before moving on)<br>Vocabulary: App-a specialized program downloaded on devices.<br>Play a game of *App I Spy* with the class. Project iPad screen and ask students to identify apps based on clues you provide. Say " I spy with my little eye an app that helps me share information." Students could say See Saw, Padlet, Notes, etc.<br>As you play, explain that apps are programs that run on devices or computers to make something happen or help us do something. Discuss how all apps are made for this reason. *Different apps do different things.* After a few practices, start organizing apps into folders and ask students to help name folders to put into different categories. | | | | | | | |

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| **Materials, tools and resources:** Download *Get started with Code 1* from the bookstore. iPad, Working Wall, codeSpark Academy, See Saw, , *Goldilocks and the Three Bears*, sequencing cards online or in person, Draw Desk, paper, markers, Working Wall space, Flipgrid. Other books for resources on coding: Rubric is on page 6 in the book *Get Started with Code 1*, and you can use the interactive links to view the rubric and other resources. ( page 7) |
| **Unit Plan Author** Brenda Allal, Highwood Hills Elementary, brenda.allal@spps.org. |
| **Additional credit given to:** Get Started with Code 1:  ( Apple) |

Draw Desk - Doodle with Paint on the App Store
flip grid
**Seesaw**
https://codespark.com/
Get Started with Code 1 on Apple Books
Padlet: You are beautiful
screencastify