**Hour of Code: Kodable**

**Session Facilitator Preparation**

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| **Platform** | iPad only |
| **Setup Prior to Session** | Kodable app will be downloaded onto student iPads prior to the session |
| **Session Facilitator Preparation** | 1. I**nstall Kodable app on your iPad** 2. **Visit the Kodable website** at <http://www.surfscore.com/> for a bit of background about Kodable. 3. **Open/download The Kodable Learning Guide: Smeeborg** at <https://s3.amazonaws.com/kodable/Smeeborg+Learning+Guide.pdf> 4. **Read the Learning Guide and use the Kodable app yourself:**    * **Chapter 1** explains the world of Kodable, and it tells a fun story about the characters.    * Open Kodable, and you’ll see that the opening video illustrates the story of the fuzzFamily and their crash landing.    * **Chapter 2** explains:      + **Sequence**, which is the first type of activity students will encounter in Kodable.      + In Kodable, complete Levels 1.1.1, 1.1.2, and 1.1.3      + Skip the paper-based fuzzFamily Frenzy activity.      + **Conditions**      + In Kodable, complete Levels 1.2.1 through 1.2.9      + **Multiple Conditions**      + In Kodable, complete Levels 1.2.10 through 1.2.15   ***Note:*** *It may not be necessary for you to complete additional levels yourself ahead of time. Due to the 1-hour time constraint, students probably will not get past Multiple Conditions.*   * + - ***Loops***     - *In Kodable, complete Levels 1.3.1 through 1.3.3*     - ***Loops + Conditions***     - *In Kodable, complete Levels 1.3.4 through 1.3.12*   + **Chapter 3** is the Answer Key. It displays a graphic for each level that shows which way arrows should point and where conditions (colored boxes) and loopers (purple chasing arrows) should be placed. |

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**Student Activity Agenda**

1. **Introduction: What is Computer Science, and What is the Hour of Code?**
   * Please present the introduction below in terms the grade levels you are teaching will best understand.
   * “Today we’re participating in an activity called the Hour of Code. During this hour, you will use a free tool called Kodable to learn how to code. Another word for coding is programming. Has anyone heard of the words *coding* or *programming* before? Where did you hear about them?”
   * “When you code, you are writing instructions for what a computer should do. You are in charge, and you tell the computer what to do.”
   * “A computer scientist is someone who writes code in order to solve problems and invent new things. Think about things in your everyday life that use computer science: a cell phone, a microwave, a computer, a traffic light… all of these things needed a computer scientist to help build them.”
   * “Computer science blends human ideas and digital tools to increase our power. Computer scientists work in so many different areas: writing apps for phones, curing diseases, creating animated movies, working on social media, building robots that explore other planets and so much more."
   * “Let’s watch a video that explains why computer science is important.”
     + K-2: 1 minute video: <https://www.youtube.com/watch?v=qYZF6oIZtfc>
2. **Programming Activity Instructions**
3. Connect your iPad to the projector using the iPad VGA adapter (dongle).
4. **Ask students to work in pairs.** Each pair of students work together on one iPad.
5. **Students open the Kodable app** on the iPad.
6. While the opening video plays in Kodable on all students’ iPads, you can briefly tell students the story of the fuzzFamily, their crash landing, and their excitement about exploring the world.
7. Explain that the goal of each level is to give the fuzz ball instructions to move along the path, collect all of the coins, and exit the path on the right side of the screen.
8. **Demonstrate Level 1.1.1: Sequence.** Ask students to tell you which way the fuzz ball should move, one step at a time. Demonstrate how to place an arrow in the square. After placing all of the arrows, show the students how to press the Play button to make the fuzz ball move.
9. **Students complete Levels 1.1.1, 1.1.2, and 1.1.3 in pairs.**
10. **Demonstrate Level 1.2.1: Conditions.** Tell students that there are lots of ways the fuzz ball can walk down the path to get to the other side. Ask them to tell you two ways the fuzz ball could go.
    * Which way is the best way to go to get all of the coins?
    * When should the fuzz ball go down in order to get the coins?
11. **Demonstrate how to place the purple box in the square.** You might say that the purple box says “stop here at the purple box”. Then show students how to put an arrow on top of the purple box to make the fuzz ball go a different direction.
12. **Students complete Levels 1.2.1 through 1.2.9 in pairs.**
13. It may not be necessary to demonstrate **Multiple Conditions**. See if the student pairs can work out the logic on their own. If you find that students are having difficulty, demonstrate Multiple Conditions.
14. **Students complete Levels 1.2.10 through 1.2.15 in pairs.**

**If students are having difficulty with the task:**

* Tell students, “Ask 3 then me.” Ask 3 classmates, and if they don’t have the answer, then ask the teacher.
* Encourage students and offer positive reinforcement: “You’re doing great, so keep trying.”
* It is okay to respond to respond: “I don’t know. Let’s figure this out together.” If you can’t figure out a problem, use it as a good learning lesson for the class: “Technology doesn’t always work out the way we want. Together, we’re a community of learners.” And: “Learning to program is like learning a new language; you won’t be fluent right away.”

**If student pairs finish a section of the activity early**:

* Ask them to see if their neighbors need any help.

1. **Closing**
   * **Did you have fun today?**
     + Ask students to describe what they enjoyed about the activity and what was challenging.
   * **Would you like to learn more?**
     + “If you enjoyed this activity, you can continue using Kodable on your own! Kodable is free for the iPad.”
     + “There are also lots of other free tools to help you learn to code. If this tool was challenging for you, you could try a different tool.”
     + Pass out the handout that includes a list of free tools that teach coding/programming concepts.
     + “In Middle School and High School, you can sign up for classes that help you learn more about Computer Science. 7th and 8th graders can sign up for Instructional Technology Applications, and 9th through 12th graders can sign up for Computer Science.”