**Coding Buddies: Program At-A-Glance**

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| **Buddies Day 1**   1. Sign-in and Introduction [15min] 2. Buddies Pair Up [5 min] 3. Live-Action Coding Game [10 min] 4. Introduction to Apps and Distribution of iPads [5 min] 5. Explore Apps [20-45 min]  * Optional LightBot Activity [10 min,   part of explore apps]   * Optional Stretching Activity [5 min]  1. Group Chat [5 min] | **Buddies Day 2**   1. Sign-in and Introduction [5min] 2. Dream App Activity and Sharing [10-15 min] 3. Marching Orders Activity [5 min] 4. Explore Apps and Websites [35 min+]  * Optional Coding Charades - [15 min, part of explore apps] * Optional Stretching Activity [5 mins]  1. Group Chat [5 min] |

**Notes for Facilitator**

* This program can be delivered in 1 or 1.5 hour sessions. Adapt and adjust activities as necessary.
* Computers are optional for this program. You may decide to explore coding websites using computers on Day 2. If this is the case, book enough computer stations for half the group so one group can be on the iPads while the other on the computers before switching.
* Pair buddies together ahead of time according to age and level of coding experience.
* Optional activities have been added to the ‘Explore Apps’ section. If you feel the buddies are interacting and working together to play the apps, then you do not need to do these, however past facilitators have expressed that the exploring time usually ends up with buddies not interacting, and therefore you are free to incorporate these activities.
* For Day 2, you will need the following files:
  + Coding Buddies – Marching Orders Activity
  + Coding Buddies – Design Your Dream App Template
  + Coding Buddies – Apps and Websites Handout
  + Coding Buddies – Coding Charades

# Day 1

1. **Sign-in and Introduction [15 min]**

* **Sign-in and name tags**
* **Snacks**
* **Staff introduction**
* **Library orientation and rules**
* **Describe the program and plan for the afternoon:**
  + - Icebreaker
    - Talk about coding
    - Pair up with your buddies and learn a little bit about each other
    - Live-action coding game
    - iPads!
* **Icebreaker** (use your favourite or try the example below)
  + Would You Rather: This is a silly icebreaker where you give everyone two scenarios and then you give them a few minutes to ask you questions about each scenario (make up the answers as you go along). End the question period after a couple minutes and then go around the room and get everyone to say their name and which scenario they would choose and why.
    - For example: *Would you rather live in a video game OR have marshmallows for feet?*
* **Discussion about coding:**
  + *What is coding?*
    - *Coding is a way of speaking to computers to let them know what we want them to do. When you are coding or programming, you are writing step-by-step instructions for the computer to follow.*
    - *Like in the real world, there are different languages that we might use to communicate with a computer. Some examples include Python, Java, and C++. There are certain rules that you need to follow in order for a command to make sense to a computer.*
    - *Unlike talking to people, if you make a typing mistake or put things in the wrong order, the computer probably won’t be able to figure out what you are trying to say. There will probably be lots of times today where the iPad or app won’t do what you want it to do and that’s ok! Coding and programming is all about trying new things and problem solving and your buddy is here to work with you and help out!*
  + *Why is coding important?*
    - *Most of the devices that we use, including cell phones, computers, washing machines, and cars, are controlled by computer programs written by a computer programmer. Without coding, we wouldn’t even be able to use many of these things!*
    - *Learning about coding helps us understand how the world around us works. Instead of just using technology, we can become makers of technology. Even if you’re not interested in becoming a computer programmer when you grow up, lots of jobs use computers and technology. Knowing even just a little bit about coding can help build your confidence and make things more fun!*
  + *What is your experience with coding?*

1. **Buddies Pair Up [10 min]**

* **Sit together**(move around room)
* **Ask each other questions**
  + Name, grade, school
  + Computer interests (Gaming? YouTube? Art?)
  + Non-computer interests

1. **Live-Action Coding Game [10 min]**

* *Play is a great way to learn because you are having fun while problem-solving. Don’t be afraid of making mistakes! That’s the best way of learning. Before we go into the iPads, we are going to play a live-action coding game.*
* Separate the little buddies and big buddies on opposite sides of the room
* Little buddies will take turns giving commands to their big buddies to come to them.
  + Consider having tables or obstacles in their way and encourage little buddies to be creative
  + Include parameters like max 2 commands at a time and max 3 steps for each command (e.g. “Turn left, walk 3 steps” would be one turn)

1. **Introduction to Apps and Distribution of iPads [5 min]**

* Easier apps:
  + Lightbot Hour of Code
  + Lego Mindstorms: Fix the Factory
* Harder apps:
  + Move the Turtle
  + Cargo-Bot
* *TBD: Cato’s Hike, Hopscotch*
* *Need account or further action: Code Combat, Swift Playgrounds*

1. **Explore Apps [20-45 min]**

Optional activities if engagement between buddies is low:

* + Begin with everyone playing the Lightbot App, allow them to play for a few minutes to get the hang of it, and then instruct the little buddies to hand the iPads over to the big buddies. Have the little buddies put their hands behind their backs or sit on their hands (no pointing). Have the little buddies give the big buddies voice commands on how to play the game. This may be “forward, jump, jump, forward, forward, light”. After 5 minutes have the buddies switch so that the big buddies are giving the little buddies the instructions. After this activity they are free to play whatever app the little buddy wants.
  + 20-25 minutes into the exploration period, stop the group for some instructed if-then stretching. Examples are:
    - If you have dark hair, then do a jumping jack. If you have light hair, then do a push-up
    - If you like soccer, then stand up and touch your toes. If you like basketball, then stand up and touch the sky.
    - If you are wearing a coloured shirt, do an arm stretch. If you are wearing a black/white shirt do a leg stretch
    - If you are wearing running shoes, stand on your left leg, If you are wearing boots or other shoes stand on your right leg.
  + Allow free time for pairs to explore any app they like.

1. **Group Chat [5 min]**

# Day 2

1. **Introduction [5 min]**
2. **Dream App Activity and Sharing [15 min]**
3. **Marching Orders Activity [5 min]**
4. **Explore Apps & Websites [30 min+]**

* Computers and websites are optional. Distribute “Apps and Websites” handout at this point if you decide to use them. Divide group and alternate computer use with iPad use.

Optional activities if engagement between buddies is low:

* Make sure everyone starts with Lego Mindstorms: Fix the Factory. After they have played for about 15 minutes, gather the iPads back and introduce the Coding Charades activity.
* After Coding Charades allow the little buddies to play any app they like.
* You can also do another instructed if-then stretching session to get everyone up and moving.

1. **Group Chat [5 min]**
   1. Distribute handouts with app names and websites if you haven’t done so already