Club Plans
Game Design

Club Plans offer step-by-step instructions for Gurus and Hosts, including optional scripts.

Please note:
On their first day, club members must visit cs-first.com/go, click "Enter Club Code" and follow the directions to be assigned to your theme and club. New club members will receive a username and password. Returning club members may reuse their username and password. Each theme and club have a different club code. Your club codes can be found at www.cs-first.com/dashboard.

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Activity 1: Gaming Story

Overview
In this first activity, club members learn about the scope and procedures of the club, then create a gaming story in Scratch.

Volunteer Focus
- Create a welcoming and inclusive environment.
- Build a positive relationship with club members.
- Ensure that club members have a positive first experience with Scratch.

Agenda Summary
This agenda is designed for a 60-minute lesson. To customize the agenda for clubs of a different length, visit cs-first.com/dashboard and use the Agenda Timer.

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Topics Introduced
- Storytelling in games
- CS First club culture and procedures
- Navigating to, signing in, and creating with Scratch
Preparation

Important: Club members need your unique club code to sign in to www.cs-first.com/go. The agenda timer will display your unique code during the "Log-in" portion of today's activity, or you can find it by signing in and visiting www.cs-first.com/dashboard.

- Turn on all computers.
- Place passports on a table near the doorway.
- Place at each workstation:
  - 1 pair of headphones
  - 1 pen/pencil
  - 1 sticky note on the monitor [optional]
- Display the agenda timer. The agenda timer shows the time allotted to each section of an activity and advances as the club progresses to ensure that there is adequate time for members to complete all agenda items. The timer plays a sound as it advances to each item. Display the agenda timer on a projector (if one is available) or on the most visible computer in the room.
- To ensure an inclusive and welcoming club environment, limit available computers to enrollment plus three additional computers (so the last member to enter the room still has a seat choice). For example, if there are 20 members enrolled, limit seating to 23 computers grouped near each other. Post stickies on the computers' monitors to show they are available, or turn over the keyboards of unavailable ones. You will still need to remind members when they enter where they can and cannot sit.
- Prepare to fill out roster. Your club dashboard (www.cs-first.com/dashboard) stores all usernames and passwords created for your club, but it does not store student names. While members are working, walk around and record usernames, passwords, and names, so you can fill out the roster for your records.
- Hang G+ poster in a visible location. [optional]

Agenda

Welcome to CS First! (3 minutes)

1. Greet members at the door as they arrive.
   - Hello and welcome to CS First!

2. Ask members to pick up a passport and sit at an available computer.
   - Everyone please pick up a passport, and go to an available computer.

3. Once all members are seated, semi-privately ask those who are sitting alone to move to a computer near other members.
   - You need to sit near others to work on today's project. Would you mind moving to a seat where you can interact with other club members?

4. Stand at the front of the room and raise a hand (the CS First silent signal) to get member attention. Wait to proceed until you have all members' attention. If you don't have the full attention of all members after 7 seconds, repeat the request. Finally, make an indirect request to the remaining members.
   - [hand raised] Everyone please turn off your monitors, and direct your attention up here. [if needed after 7 seconds] I need everyone's monitors off and attention up here before we can start. [if needed after an additional 5 seconds] I'm still waiting on 2 members before we can begin... okay great!
Introduction to Gurus, Agenda, and Passports (6 minutes)

1. Introduce yourself/selves.
   
   [example] Welcome to CS First! I am Mr. Smith, and I volunteered to help out with this Google CS First club. I teach eighth grade math, and in my free time I like to read.

2. Introduce and define Computer Science.
   
   CS First is a computer science club. Raise your hand if you can tell me what computer science is. [possible responses: programming, coding, creating things with a computer, solving problems.] One way to define computer science is "Creating programs and solving problems using a computer.

3. Introduce the CS First theme.
   
   In this CS First club, you will build [name of theme] themed projects in the programming language Scratch. To do that, you'll use the CS First website to watch instructional videos, and you'll code your projects on the Scratch website. You'll build a new computer program in each of the eight activities for this club.

4. Describe the agenda.
   
   To find out what you'll be doing during today's activity, take a look at the agenda. We already covered the welcome and the introductions. Next, I'll go over your passports. Then, you'll learn how to use the CS First website. After signing in, you'll take a short survey and start programming in Scratch.

5. Ensure that all club members have a CS First Passport.
   
   You should have grabbed a CS First Passport when you came in. If you don't have one, please raise your hand, and I'll bring one to you. [wait]

6. Ask club members to hold off writing in the passport until after the introduction.
   
   While I go over what's inside this passport, follow along. Please do not write anything inside until I ask you to do so.

7. Introduce sign-in information.
   
   Open to the first page. Here, you'll see a place for your username and password. When you log in to your computer, you'll go to www.cs-first.com/go to receive this information. Writing your sign in information here is very important. During that time, you'll also fill out the 'About Me' section on the same page.

8. Introduce the club activity pages.
   
   There is a page for each club activity. These pages describe the project you'll build and include a place for the badge you'll earn for that activity.

9. Introduce shout-outs. [optional]
   
   If you flip towards the back, you'll find a section to hold shout-outs. Shout-outs are positive words of encouragement written to you on a sticky note. After they've gone on the G+ board, you can store them in your passport.

10. Ask club members to write their names on their passports.
    
    Finally, these passports can also be name tents [hold the passport up to show proper name orientation]. Please write your name in big letters on the passport now.

11. Ask for questions.
Activity Directions (5 minutes)

1. Introduce cs-first.com.
   In this club, you'll watch videos on cs-first.com to learn how to create projects (or programs).

2. Introduce how to sign in.
   To start today, you'll go to www.cs-first.com/go to receive a username and password. Once there, click the "enter club code" button. Enter the code for our club (found on your dashboard).

3. Tell club members to write down their username and password, and sign in.
   It's important that you write down your username and password during this step. You'll use this username and password for both CS First and Scratch.

4. Provide instructions for completing the survey and watching the introduction to Scratch video.
   Once you've signed in, watch the survey introduction and complete the short survey. Then, watch the introduction to Scratch video on the next page to learn about the programming language you'll use in this club.

5. If you have students that have been in CS First before, describe how to reuse usernames and passwords.
   If you've been in a CS First club before, you'll still enter the club code to sign up for this club. Then, follow the instructions to reuse your username and password. If you've been in CS First before, you can skip the introduction to Scratch video.

6. Re-iterate instructions.
   Someone please raise your hand, and remind me what you need to do once you turn on your monitor. [1. Go to www.cs-first.com/go. 2. Click "Enter Club Code." 3. Follow instructions to get sign in and password. 4. Write down information. 5. Sign in and complete the survey. 6. Watch the introduction to Scratch video.] If you forget what to do, the instructions are shown on the agenda timer.

7. Explain how to use sticky notes to ask questions. [optional]
   If you have a question while signing in or at any time during this club, place a sticky note on your monitor. [demonstrate] This lets me know that you have a question. So, before we start, please take down your sticky note and only put it back on your monitor if you have a question. [Wait until all stickies have been taken down]

8. Ask club members to begin.
   Are there any questions before we start? [wait] Wonderful. You may begin.

Get Started on CS First (8 minutes)

- Walk around the classroom and ensure that club members are following the provided directions.
- Ensure that club members are writing down their username and passwords in their passports.

Watch Video 1 and Create (5 minutes)

1. Members are asked to remix a Scratch project and sign in after they watch the first video. As you circulate around the room, check that members have signed in to Scratch (their username will appear in the top right corner of the project editor) and that they are moving on to the next video.

2. Club members should use the tabs on their internet browser to switch between the Scratch and CS First websites. If
you notice club members struggling to do this, it may help to pause the group, and introduce switching between tabs to the whole club.

Watch Video 2 and Create (10 minutes)

- Walk around the room, and fill out member names on the club roster you received with your CS First materials. Members should have their passports out with their CS First IDs and names on them. If they don't, please ask the club members to take them out. If you notice club members haven't written their names on their passports, instruct them to do so now.

  Hi. I'm filling out a roster so that I know everyone who is in the club. May I see your passport? Thank you.

- Circulate around the room and attempt to talk with each member individually. The first day is a great opportunity to begin building relationships with members. Talk with members about what they're working on, and support them if they have questions.

  Can you tell me about what you've built? This looks cool; can you explain to me what it does? How are you doing?

- Members should post sticky notes when they have questions. Scan the room often to look for posted stickies, and offer help when you see one. If members raise their hands when they have a question, politely remind them to use a sticky next time. [optional]

  Remember to post your sticky when you have a question, so you don't have to raise your hand.

Watch Video 3 and Create (9 minutes)

- During this step, club members begin to program their project. Walk around and ensure that club members have added code to their project, and that they're able to run it (either by clicking on the code blocks, or by clicking the green flag).

  It's important for club members to have a positive experience on the first day, so look for club members who may be frustrated and provide help and encouragement.

Choose Add-Ons and Create (0 minutes)

During this time, members customize their projects by trying some add-ons. Add-ons allow members to explore programming concepts and features as they follow the guidance and instruction in the videos.

1. Walk around, and encourage members to try the add-ons that interest them.

   It looks like you've finished the core videos. That's great! Move to the next page to learn about different ways to customize your project.

2. Help members navigate the add-ons menu.

   "When you click "watch," the add-on will open. To go back to the add-on selection screen, click on the X at the top of the video."

3. If you notice that members have not saved or shared their projects (You will see a "See project page" button in the top right corner of the project editor on projects members have shared.), encourage them to do so before they continue working on add-ons.

   I see that you're working on the add-ons. Be sure to save your project, and click "Share" to make it available to the Scratch community.
CS First Reflection (2 minutes)

1. Get everyone’s attention using the silent signal.
   
   [silent signal] Can I have everyone’s attention up here, please?

2. Ask club members to click the next arrow until they reach the reflection page, then to complete the reflection.
   
   Now it’s time for the CS First club reflection and wrap-up video. Click the ‘next’ arrow, and complete the reflection. Then, click the next arrow and watch the wrap-up video. While you do this, I’ll walk around and hand out participation badges.

3. Walk around, and ensure that club members are transitioning to the reflection page.
4. Give out participation badges (stickers).

Watch Wrap-Up Video (4 minutes)

1. Prompt club members to complete the club reflection, then move on to the wrap-up video.
   
   After you've completed your reflection, click the 'next' arrow to watch the wrap-up video. While you're finishing these final steps, I'll continue to walk around and award the participation badges for this activity.

2. Ask club members to write a shout-out for a clubmate. [optional]
   
   After watching the wrap-up video, write a positive note to a clubmate on your sticky note. Thank someone who helped you, or call out a great project. Once you've written a shout-out, come place it on the G+ board.

3. Continue to circulate around the club, and pass out participation badges.
4. When the Agenda Timer indicates that 30 seconds remain in this section, remind club members about the time.
   
   You have thirty seconds remaining until we begin sharing projects.

Share Projects (4 minutes)

1. Tell club members to return to Scratch, and click the "share" button.
   
   [Silent signal] Please return to your Scratch project. If you haven’t already, please name your project, and, if you’d like, share it by clicking the "share" button in Scratch. Sharing your project will allow any user on the Scratch website to view it. If you can't find the "share" button, ask a neighbor for help. Once you've shared your project in Scratch write a description that explains how to use it. Then, in one minute, we'll begin sharing projects with our neighbors.

2. Ask the club to begin sharing their projects with the person or people sitting next to them.
   
   Everyone please begin sharing your projects with the people sitting near you. During this time, I shouldn't see anyone working on their projects.

3. Walk around and encourage club members who haven’t shared their projects (the share button will still be visible in the top-right corner of the screen) to do so. If club members don’t wish to share, that’s okay. Ensure that all club members are engaging in this social aspect of the club by either sharing their project with a neighbor, or talking to other club members about their project.
1. Briefly review and highlight some G+ posts that club members made. [optional]

[silent signal] Let's look at some of the G+ shout-outs that club members received for their work during this activity. [Read a few G+ shout-outs aloud].

2. Whole-club discussion

Finally, let's discuss what you learned during this activity. [Read "discussion questions" from below].

3. Preview next activity.

Next club is on [day of next club (e.g. Monday)], and you will build [description of project].

4. Facilitate dismissal by asking club members to wrap headphones and shut down computers [ask club members to either leave headphones at their seats or drop them off while exiting].

At the end of each club, you'll be asked to wrap your headphones. To do this, hold the headphones flat, and wrap the cord around the ear pieces [demonstrate]. Everyone, please try this now. [wait] Once your headphones are wrapped, please place them at your seats. Once I see that all of your headphones are wrapped, we will all leave together. I look forward to working with you all again next time!

Discussion questions:

- What story did you tell about gaming?
- What was your favorite part of this activity?
- What blocks did you use, and what did they do?

Next club: Racing Game

After members have exited the room:

- Collect all passports, headphones and unused stickies.
- Take down shout-outs from the G+ page and place them into their recipients' passports.
- Ensure that the computer lab is clean and that computers are in the state that the school prefers (i.e. shut down, monitor off, etc.).
- Turn off any equipment that you used (SMART Board, computer, etc).
- Turn off any lights and close door when leaving.
Activity 2: Racing Game

Overview
During this club, members create a two-player racing game in which players control movement with the keyboard.

Volunteer Focus
- Encourage club members to talk with and help their clubmates.
- Encourage members to work through difficult problems and to explore new solutions.
- Develop and maintain a club routine by closely following the club agenda.

Agenda Summary
This agenda is designed for a 60-minute lesson. To customize the agenda for clubs of a different length, visit cs-first.com/dashboard and use the Agenda Timer.

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Topics Introduced
- Keypress events
- Movement
- "Repeat" blocks

Resources
- A Racing Game Starter Project (http://scratch.mit.edu/projects/17753064/)
Preparation

- Turn on all computers.
- Place member passports on a table.
- Visibly hang G+ community poster.
- Place at each workstation:
  - 1 pair of headphones
  - 1 pen/pencil
  - 1 sticky note [optional]
- On a classroom projector, display the following in multiple tabs:
  - Club agenda timer
  - Showcase selector- Click the link at the top of this page to open the showcase selector in a new tab.

Agenda

Introduction (5 minutes)

1. Greet members at the door as they arrive.
   
   Hi [name]. Welcome back!

2. Ask members to pick up their passports, then sit at an empty computer and log in.
   
   Everyone please pick up your passports and go to a computer. Sign in to CS First and Scratch. Once you have logged in, please turn off your monitors.

3. Once all members are seated and logging in to their computers, privately ask members who are sitting alone to move to a computer near other members.
   
   Hi [name]. Today you’re going to need to be sitting near others to work on this project. Would you mind moving to a seat where you’ll be able to interact with other club members?

4. Use the silent signal to get member attention.
   
   [Silent signal] I need everyone’s attention up here, please.

5. Have all members turn off monitors and remove headphones before starting. It is important that you enforce this rule or members will use the computers instead of interacting.
   
   Everyone please turn off your monitors, so we can begin the introduction [wait for all members to turn off monitors].

6. Recap and review the last activity (Gaming Story).
   
   Will someone please raise their hand and remind me what we did in our last club session?” Possible response: “Last club session we signed into Scratch and told a gaming story.”

7. Introduce the CS concept: events.
   
   In this activity, you’re going to create a racetrack game in Scratch. This game will teach you how to code events and motions. Events are a really important computer science and gaming concept. In most games, you use button presses on a controller or keyboard to move a character. These button presses are all programmed using events. Events are a computer's way of handling an action, like a button press.

8. Preview the racing game.
   
   In this activity, you are going to learn how to program arrow key events in a racing game. This is a two-player game in which each player gets to drive or move a sprite around the screen. Once you’re done coding the project, you'll be able
Transition to Computer Time (2 minutes)

1. Introduce computer time.
   
   [show agenda] Now, we're going to move into the computer time.

2. Remind members to use a sticky note if they have a question. [optional]
   
   If you have a question during this time, ask your neighbors for help. If they can't help you, put a sticky note on your monitor and, I will come help you.

3. Remind members that at the end of this activity you will pick a few projects to share next club.
   
   Remember that at the end of this activity we will pick a few people's projects to show at the beginning of next club.

4. Have members turn on monitors and navigate to CS First website.
   
   Please turn on your monitors, go to the CS First website, and start watching the first video.

5. If there are new club members, provide them with your club code and ask them to go to cs-first.com/go to get sign-in information.
   
   If today is your first time in this club, please begin by going to cs-first.com/go. Click "Enter Club Code," then follow the directions to get a sign-in and password.

Watch Video 1 and Create (8 minutes)

Immediately after asking members to begin watching the first video:

- Answer questions promptly so members can get started on the activity.
- Go to a place in the room where you can see all of the monitors. Ensure that all members have begun to watch the first video. Look for members who are either not on the CS First site or who are watching the wrong video. Politely and privately redirect these members to the correct video.

Watch Video 2 and Create (15 minutes)

- Members are only using "event" blocks (dark gold) and "motion" blocks (blue). Look for members who have many different color blocks on their screen, and redirect them towards the "event" and "motion" blocks to complete this step. It's okay for club members to experiment and try different blocks, but filling the scripting area with many unrelated blocks may signal that a member is confused.

   "How are you doing? [wait] How are you going to get the up arrow key to move this sprite forward? Have you considered..."

- Members who are exploring the costumes or sounds tab may not understand the coding aspect of this activity. Remind them of the task, and try to answer any questions they have.
- If club members want to move the sprite backwards, instruct them to try using a "move" block with a negative number.

Check to ensure that members have signed in to Scratch by looking at the top right corner of their Scratch project editor. If you see their username, they are signed in. If you see a "Sign In" link, that member still needs to sign in. Members who haven't signed in will not be able to save their work.

I see that you haven't signed in. Please click sign in, and enter your sign-in information from your passport so that you can save your project.
Watch Video 3 and Create (15 minutes)

In the previous step, members were asked to code all three arrows. Some members may have difficulty matching the appropriate movements and events. If you see members who are frustrated by their sprite’s movement, ask questions in an attempt to guide them.

Is that sprite moving the way you want it to? How would you like it to move?

Choose Add-Ons and Create (0 minutes)

During this time, members customize their projects by trying some add-ons. Add-ons allow members to explore programming concepts and features as they follow the guidance and instruction in the videos.

1. Walk around, and encourage members to try the add-ons that interest them.

   It looks like you’ve finished the core videos. That’s great! Move to the next page to learn about different ways to customize your project.

2. Help members navigate the add-ons menu.

   "When you click "watch," the add-on will open. To go back to the add-on selection screen, click on the X at the top of the video."

3. If you notice that members have not saved or shared their projects (You will see a “See project page” button in the top right corner of the project editor on projects members have shared.), encourage them to do so before they continue working on add-ons.

   I see that you’re working on the add-ons. Be sure to save your project, and click ”Share” to make it available to the Scratch community.

CS First Reflection (2 minutes)

1. Get everyone’s attention using the silent signal.

   [silent signal] Can I have everyone’s attention up here, please?

2. Ask club members to click the next arrow until they reach the reflection page, then to complete the reflection.

   Now it’s time for the CS First club reflection and wrap-up video. Click the ‘next’ arrow, and complete the reflection. Then, click the next arrow and watch the wrap-up video. While you do this, I’ll walk around and hand out participation badges.

3. Walk around, and ensure that club members are transitioning to the reflection page.

4. Give out participation badges (stickers).

Watch Wrap-Up Video (4 minutes)

1. Prompt club members to complete the club reflection, then move on to the wrap-up video.

   After you’ve completed your reflection, click the ‘next’ arrow to watch the wrap-up video. While you’re finishing these final steps, I’ll continue to walk around and award the participation badges for this activity.

2. Ask club members to write a shout-out for a clubmate. [optional]

   After watching the wrap-up video, write a positive note to a clubmate on your sticky note. Thank someone who helped you, or call out a great project. Once you’ve written a shout-out, come place it on the G+ board.
3. Continue to circulate around the club, and pass out participation badges.

4. When the Agenda Timer indicates that 30 seconds remain in this section, remind club members about the time.

You have thirty seconds remaining until we begin sharing projects.

Share Projects (4 minutes)

1. Tell club members to return to Scratch, and click the "share" button.

   [Silent signal] Please return to your Scratch project. If you haven't already, please name your project, and, if you'd like, share it by clicking the "share" button in Scratch. Sharing your project will allow any user on the Scratch website to view it. If you can't find the "share" button, ask a neighbor for help. Once you've shared your project in Scratch, write a description that explains how to use it. Then, in one minute, we'll begin sharing projects with our neighbors.

2. Ask the club to begin sharing their projects with the person or people sitting next to them.

   Everyone please begin sharing your projects with the people sitting near you. During this time, I shouldn't see anyone working on their projects.

3. Walk around and encourage club members who haven't shared their projects (the share button will still be visible in the top-right corner of the screen) to do so. If club members don't wish to share, that's okay. Ensure that all club members are engaging in this social aspect of the club by either sharing their project with a neighbor, or talking to other club members about their project.

Select Showcases (1 minute)

1. Display showcase selector on board (follow the link at the top of this club plan).

2. Get everyone's attention using the silent signal and request that club members turn off their monitors. Ensure that all monitors are turned off before beginning (club members won't need to use their computers again during this club).

   [Hand raised] Everyone please turn your monitors off and direct your attention up here.

3. Explain showcase selector.

   This is the showcase selector. At the end of each activity, we'll pick two projects to showcase at the beginning of next club. If your project is selected, we'll display it up here on the projector next club and everyone will get a chance to enjoy it!

4. Run the showcase selector.

   Let's get excited! Let's press the "Choose a Showcase!" button and see who gets selected! And we have… CSF###!

5. Using the club roster, find and say the names of the club members selected.

   Wonderful! CSF### is… [name]! I'm really looking forward to seeing [member names] projects next club.

6. Remind members to share their project.

   If you were one of the members selected, make sure that we'll be able to see your project by clicking the share button at the top of the project editor. If you didn't do that for this project, make sure you do it first thing at the start of next club.

7. Tell members what to do if they don't want their project shown.

   If you were selected, but you don't want your project shown next club, please see me after this club or before the
Club Discussion (4 minutes)

1. Briefly review and highlight some G+ posts that club members made. [optional]

   [silent signal] Let’s look at some of the G+ shout-outs that club members received for their work during this activity. [Read a few G+ shout-outs aloud].

2. Whole-club discussion

   Finally, let’s discuss what you learned during this activity. [Read "discussion questions" from below].

3. Preview next activity.

   Next club is on [day of next club (e.g. Monday)], and you will build [description of project].

4. Facilitate dismissal by asking club members to wrap headphones and shut down computers [ask club members to either leave headphones at their seats or drop them off while exiting].

   At the end of each club, you’ll be asked to wrap your headphones. To do this, hold the headphones flat, and wrap the cord around the ear pieces [demonstrate]. Everyone, please try this now. [wait] Once your headphones are wrapped, please place them at your seats. Once I see that all of your headphones are wrapped, we will all leave together. I look forward to working with you all again next time!

Discussion questions:

- What was your favorite part of this activity?
- What do events do in computer science? [tell code when to run]
- What was it like to play your game with someone else?

Next club: Maze Game

After members have exited the room:

- Collect all passports, headphones and unused stickies.
- Take down shout-outs from the G+ page and place them into their recipients' passports.
- Ensure that the computer lab is clean and that computers are in the state that the school prefers (i.e. shut down, monitor off, etc.).
- Turn off any equipment that you used (SMART Board, computer, etc).
- Turn off any lights and close door when leaving.
Activity 3: Maze Game

Overview
In this activity, club members create a game in which the player guides a sprite through a maze.

Volunteer Focus
- Encourage club members to talk with and help their clubmates.
- Ensure that all members can progress through the core videos and achieve success.

Agenda Summary
This agenda is designed for a 60-minute lesson. To customize the agenda for clubs of a different length, visit cs-first.com/dashboard and use the Agenda Timer.

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Topics Introduced
- If-then statements (control flow)
- Boolean blocks (conditions)

Topics Reinforced
- Events
Preparation

- Turn on all computers.
- Place member passports on a table.
- Visibly hang G+ community poster.
- Place at each workstation:
  - 1 pair of headphones
  - 1 pen/pencil
  - 1 sticky note [optional]
- On a classroom projector, display the following in multiple tabs:
  - Club agenda timer
  - Showcase selector- Click the link at the top of this page to open the showcase selector in a new tab.
  - Projects to showcase- Using the table at the bottom of the showcase selector, open the appropriate club member project pages and find the correct project. If you cannot find the project, ask the member to check if they shared the project (they can see this by signing in to Scratch and clicking "My Stuff").

Agenda

Introduction (5 minutes)

1. Greet members at the door as they arrive.
2. Ask members to pick up their passports, then sit at an empty computer and log in.
3. Once all members are seated and logging in to their computers, privately ask members who are sitting alone to move to a computer near other members.
4. Use the silent signal to get member attention.
5. Have all members turn off monitors and remove headphones before starting. It is important that you enforce this rule or members will use the computers instead of interacting.
6. Review previous club (A Racing Game)

   Can someone please raise their hand and tell me what we worked on last club?

7. Introduce the activity and CS concept - A Maze Game that uses if statements.

   In this activity you will build a Maze video game. Someone please raise your hand and tell me a game or video game that uses boundaries or walls to control where a player can go? [take a few examples (football, Pac-man, the Legend of Zelda, etc.)] Great! In today's game, and in most video games, If-statements are used to create these boundaries. These if-statements are programmed to read: "If a player is touching the boundary, do something, like deduct a point, or stop them."

View Showcase Projects (3 minutes)

[For instructions on finding and selecting showcases, see the "Preparation" section of this club plan. Remember that club members can opt out of having their projects shown. If the selected club members do not want to showcase their projects, you may ask for one or two volunteers to show their projects.]

1. Transition to showcase.
2. Run first project and discuss.
3. Look at code by clicking the "See Inside" button.
4. Cheer and clap.
5. Repeat steps for any additional projects.
Transition to Computer Time (2 minutes)

1. Introduce computer time.
2. Remind members to use a sticky note if they have a question. [optional]
3. Remind members that at the end of this activity you will pick a few projects to share next club.
4. Have members turn on monitors and navigate to CS First website.
5. If there are new club members, provide them with your club code and ask them to go to cs-first.com/go to get sign-in information.

Watch Video 1 and Create (8 minutes)

Immediately after asking members to begin watching the first video:
- Answer questions promptly so members can get started on the activity.
- Go to a place in the room where you can see all of the monitors. Ensure that all members have begun to watch the first video. Look for members who are either not on the CS First site or who are watching the wrong video. Politely and privately redirect these members to the correct video.

Check that members have opened the starter project. The Solution Sheet shows an example of a blank starter project.

Watch Video 2 and Create (7 minutes)

- Look for members who drag the sprite to move it, rather than clicking on the sprite and allowing the sprite to follow the mouse pointer.

Hi [name], I see that you've programmed the sprite to follow the mouse pointer when clicked. Rather than dragging the sprite, you can click on the sprite and release the mouse button. The sprite will go to the mouse pointer forever.

Interact with all members in the club. Your attention demonstrates you care. Try to interact with every member personally at least once per club session.

Watch Video 3 and Create (10 minutes)

After watching this video, club members will use if statements to keep the player from touching the boundaries.

- Watch for members who have difficulty adding the edge color to their "touching color" block. To add this color, club members should click on the color in the block, then select the edge of the maze.

If you need to change the color of this, try clicking on the color square in the box, then on the color you want to select.

Watch Video 4 and Create (10 minutes)

After watching this video, club members will program a winning condition for this game.

- If members need help figuring out what celebration to program, ask some guiding questions.

Examples: What would you do if you won a game? Have you tried experimenting with a few different blocks to see what happens?

If club members don’t have questions, it is still important to walk around the classroom and interact with everyone. The self-paced nature of CS First clubs ensures that you have time to work individually with club members even when questions aren’t being asked. Consider asking club members: “Can you tell me about what you’re working on?”; “How
are you doing?"; "Wow that's interesting! How'd you make it do that?"; "What's your favorite part of your program/game/project so far?"

Choose Add-Ons and Create (0 minutes)

During this time, members customize their projects by trying some add-ons. Add-ons allow members to explore programming concepts and features as they follow the guidance and instruction in the videos.

1. Walk around, and encourage members to try the add-ons that interest them.
2. Help members navigate the add-ons menu.
3. If you notice that members have not saved or shared their projects (You will see a "See project page" button in the top right corner of the project editor on projects members have shared.), encourage them to do so before they continue working on add-ons.

CS First Reflection (2 minutes)

1. Get everyone’s attention using the silent signal.
2. Ask club members to click the next arrow until they reach the reflection page, then to complete the reflection.
3. Walk around, and ensure that club members are transitioning to the reflection page.
4. Give out participation badges (stickers).

Watch Wrap-Up Video (4 minutes)

1. Prompt club members to complete the club reflection, then move on to the wrap-up video.
2. Ask club members to write a shout-out for a clubmate. [optional]
3. Continue to circulate around the club, and pass out participation badges.
4. When the Agenda Timer indicates that 30 seconds remain in this section, remind club members about the time.

Share Projects (4 minutes)

1. Tell club members to return to Scratch, and click the "share" button.
2. Ask the club to begin sharing their projects with the person or people sitting next to them.
3. Walk around and encourage club members who haven’t shared their projects (the share button will still be visible in the top-right corner of the screen) to do so. If club members don’t wish to share, that’s okay. Ensure that all club members are engaging in this social aspect of the club by either sharing their project with a neighbor, or talking to other club members about their project.

Select Showcases (1 minute)

1. Display showcase selector on board (follow the link at the top of this club plan).
2. Get everyone’s attention using the silent signal and request that club members turn off their monitors. Ensure that all monitors are turned off before beginning (club members won’t need to use their computers again during this club).
3. Transition to the showcase selector.
4. Run the showcase selector.
5. Using the club roster, find and say the names of the club members selected.
6. Remind members to share their project.
7. Tell members what to do if they don’t want their project shown.
Club Discussion (4 minutes)

- Briefly review and highlight some G+ posts that club members made.
- Lead whole-club discussion.
- Preview next club.
- Exit.

Discussion questions:

- What was your favorite part of this activity?
- What do events do in computer science? [tell code when to run]
- What do if statements do in computer science? [allow a computer to make decisions: “if this, then this”]

Next club: Platform Game

After members have exited the room:

- Collect all passports, headphones and unused stickies.
- Take down shout-outs from the G+ page and place them into their recipients' passports.
- Ensure that the computer lab is clean and that computers are in the state that the school prefers (i.e. shut down, monitor off, etc.).
- Turn off any equipment that you used (SMART Board, computer, etc).
- Turn off any lights and close door when leaving.
Activity 4: Platform Game

Overview

In this activity, club members create and learn about platform games. Club members program a player sprite to move and jump across platforms when the arrow keys are pressed. In order to win, the player sprite must make it across all the platforms and touch another sprite.

Volunteer Focus

- Ensure that members continue to be social while programming (encourage members to take off headphones when coding, ask neighbors questions, etc.).
- Encourage members to be creative with the sprites and add-ons that they select.

Agenda Summary

This agenda is designed for a 60-minute lesson. To customize the agenda for clubs of a different length, visit cs-first.com/dashboard and use the Agenda Timer.

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Topics Introduced

- If Statements

Topics Reinforced

- Events
- Movement

Resources

- Platform Game Starter Project (http://scratch.mit.edu/projects/19646592/#editor)
Preparation

- Turn on all computers.
- Place member passports on a table.
- Visibly hang G+ community poster.
- Place at each workstation:
  - 1 pair of headphones
  - 1 pen/pencil
  - 1 sticky note [optional]
- On a classroom projector, display the following in multiple tabs:
  - Club agenda timer
  - Showcase selector - Click the link at the top of this page to open the showcase selector in a new tab.
  - Projects to showcase - Using the table at the bottom of the showcase selector, open the appropriate club member project pages and find the correct project. If you cannot find the project, ask the member to check if they shared the project (they can see this by signing in to Scratch and clicking "My Stuff").

Agenda

Introduction (5 minutes)

1. Greet members at the door as they arrive.
2. Ask members to pick up their passports, then sit at an empty computer and log in.
3. Once all members are seated and logging in to their computers, privately ask members who are sitting alone to move to a computer near other members.
4. Use the silent signal to get member attention.
5. Have all members turn off monitors and remove headphones before starting. It is important that you enforce this rule or members will use the computers instead of interacting.
6. Review previous club - A Maze Game.

Can someone please raise their hand, and tell me what you worked on last club?

7. Introduce this activity's project and CS Concept (Platform Games and If-statements.)

In this activity, you'll make a platform game. Raise your hand if you've ever played Mario, Sonic, Donkey Kong, or Doodle Jump. [Wait]. Those are all examples of platform games. In platform games, computer scientists use If-statements to keep players on top of a platform. If the player is not touching a platform, then he or she falls.

View Showcase Projects (3 minutes)

[For instructions on finding and selecting showcases, see the "Preparation" section of this club plan. Remember that club members can opt out of having their projects shown. If the selected club members do not want to showcase their projects, you may ask for one or two volunteers to show their projects.]

1. Transition to showcase.
2. Run first project and discuss.
3. Look at code by clicking the "See Inside" button.
4. Cheer and clap.
5. Repeat steps for any additional projects.
Transition to Computer Time (2 minutes)

1. Introduce computer time.
2. Remind members to use a sticky note if they have a question. [optional]
3. Remind members that at the end of this activity you will pick a few projects to share next club.
4. Have members turn on monitors and navigate to CS First website.
5. If there are new club members, provide them with your club code and ask them to go to cs-first.com/go to get sign-in information.

Watch Video 1 and Create (8 minutes)

Immediately after asking members to begin watching the first video:
- Answer questions promptly so members can get started on the activity.
- Go to a place in the room where you can see all of the monitors. Ensure that all members have begun to watch the first video. Look for members who are either not on the CS First site or who are watching the wrong video. Politely and privately redirect these members to the correct video.

Check that members have opened the starter project. The Solution Sheet shows an example of a blank starter project.

Watch Video 2 and Create (8 minutes)

Look to redirect members who have difficulty matching the keypress events with the appropriate blocks (e.g. not matching move right with right-arrow keypress events).

Interact with all members in the club. Your attention demonstrates you care. Try to interact with every member personally at least once per club session.

Watch Video 3 and Create (9 minutes)

Redirect club members who don't put their if statements inside forever loops.

Watch Video 4 and Create (10 minutes)

This video asks members to fill in the final if statement to create a winning condition. Ensure that club members are able to successfully put a condition in the if statement (if touching bananas, for example), then program something to happen when a player wins (e.g. say "you win!").

Choose Add-Ons and Create (0 minutes)

During this time, members customize their projects by trying some add-ons. Add-ons allow members to explore programming concepts and features as they follow the guidance and instruction in the videos.

1. Walk around, and encourage members to try the add-ons that interest them.
2. Help members navigate the add-ons menu.
3. If you notice that members have not saved or shared their projects (You will see a "See project page" button in the top right corner of the project editor on projects members have shared.), encourage them to do so before they continue working on add-ons.
CS First Reflection (2 minutes)

1. Get everyone's attention using the silent signal.
2. Ask club members to click the next arrow until they reach the reflection page, then to complete the reflection.
3. Walk around, and ensure that club members are transitioning to the reflection page.
4. Give out participation badges (stickers).

Watch Wrap-Up Video (4 minutes)

1. Prompt club members to complete the club reflection, then move on to the wrap-up video.
2. Ask club members to write a shout-out for a clubmate. [optional]
3. Continue to circulate around the club, and pass out participation badges.
4. When the Agenda Timer indicates that 30 seconds remain in this section, remind club members about the time.

Share Projects (4 minutes)

1. Tell club members to return to Scratch, and click the "share" button.
2. Ask the club to begin sharing their projects with the person or people sitting next to them.
3. Walk around and encourage club members who haven't shared their projects (the share button will still be visible in the top-right corner of the screen) to do so. If club members don't wish to share, that's okay. Ensure that all club members are engaging in this social aspect of the club by either sharing their project with a neighbor, or talking to other club members about their project.

Select Showcases (1 minutes)

1. Display showcase selector on board (follow the link at the top of this club plan).
2. Get everyone's attention using the silent signal and request that club members turn off their monitors. Ensure that all monitors are turned off before beginning (club members won't need to use their computers again during this club).
3. Transition to the showcase selector.
4. Run the showcase selector.
5. Using the club roster, find and say the names of the club members selected.
6. Remind members to share their project.
7. Tell members what to do if they don't want their project shown.

Club Discussion (4 minutes)

- Briefly review and highlight some G+ posts that club members made.
- Lead whole-club discussion.
- Preview next club.
- Exit.
Discussion questions:

- What was your favorite part of the activity?
- What do events do in computer science? [tell code when to run]
- What do if statements do in computer science? [allow a computer to make decisions: "if this, then this"]

Next club: Escape Game

After members have exited the room:

- Collect all passports, headphones and unused stickies.
- Take down shout-outs from the G+ page and place them into their recipients' passports.
- Ensure that the computer lab is clean and that computers are in the state that the school prefers (i.e. shut down, monitor off, etc.).
- Turn off any equipment that you used (SMART Board, computer, etc).
- Turn off any lights and close door when leaving.
Overview

In this activity, club members create an escape game in which a player must avoid other sprites that move randomly. Users increase their score by avoiding these sprites.

Volunteer Focus

- Ensure that club members progress through the videos.
- Ensure that club members have an opportunity to customize their project using the add-ons.

Agenda Summary

This agenda is designed for a 60-minute lesson. To customize the agenda for clubs of a different length, visit cs-first.com/dashboard and use the Agenda Timer.

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Topics Introduced

- Variables
- Randomness

Topics Reinforced

- Events
- Movement
Preparation

- Turn on all computers.
- Place member passports on a table.
- Visibly hang G+ community poster.
- Place at each workstation:
  - 1 pair of headphones
  - 1 pen/pencil
  - 1 sticky note
- On a classroom projector, display the following in multiple tabs:
  - Club agenda timer
  - Showcase selector - Click the link at the top of this page to open the showcase selector in a new tab.
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Agenda

Introduction (5 minutes)

1. Greet members at the door as they arrive.
2. Ask members to pick up their passports, then sit at an empty computer and log in.
3. Once all members are seated and logging in to their computers, privately ask members who are sitting alone to move to a computer near other members.
4. Use the silent signal to get member attention.
5. Have all members turn off monitors and remove headphones before starting. It is important that you enforce this rule or members will use the computers instead of interacting.
6. Review previous club: A Platform Game.

Can someone please raise their hand and tell me what we worked on last club?

7. Introduce the activity: Escape Game, which introduces variables and randomness.

In this activity, you will create an Escape Game. In this game, you'll have a player sprite that must avoid chasing sprites. This game will introduce randomness. What does random mean? [happening without a pattern or decision/unexpected]. This game will use random numbers to decide which way the chasing enemies point.

View Showcase Projects (3 minutes)

[For instructions on finding and selecting showcases, see the "Preparation" section of this club plan. Remember that club members can opt out of having their projects shown. If the selected club members do not want to showcase their projects, you may ask for one or two volunteers to show their projects.]

1. Transition to showcase.
2. Run first project and discuss.
3. Look at code by clicking the "See Inside" button.
4. Cheer and clap.
5. Repeat steps for any additional projects.
Transition to Computer Time (2 minutes)

1. Introduce computer time.
2. Remind members to use a sticky note if they have a question. [optional]
3. Remind members that at the end of this activity you will pick a few projects to share next club.
4. Have members turn on monitors and navigate to CS First website.
5. If there are new club members, provide them with your club code and ask them to go to cs-first.com/go to get sign-in information.

Watch Video 1 and Create (8 minutes)

Immediately after asking members to begin watching the first video:

- Answer questions promptly so members can get started on the activity.
- Go to a place in the room where you can see all of the monitors. Ensure that all members have begun to watch the first video. Look for members who are either not on the CS First site or who are watching the wrong video. Politely and privately redirect these members to the correct video.

Watch Video 2 and Create (9 minutes)

Before moving on to this step, club members should have added two sprites and a backdrop to their programs. Club members will program the main character.

Watch Video 3 and Create (9 minutes)

- Club members will program the chaser sprite and should still only have two sprites on their screen.
- Watch for club members who are in the design window, as this may indicate difficulty with the programming. Either redirect these club members back to the video, or talk with them about what they’re working on.

Watch Video 4 and Create (9 minutes)

- Club members will program their game to keep score. Watch for members who have difficulty finding and working with the timer block (located in sensing).

If club members don’t have questions, it is still important to walk around the classroom and interact with everyone. The self-paced nature of CS First clubs ensures that you have time to work individually with club members even when questions aren’t being asked. Consider asking club members: “Can you tell me about what you’re working on?”; “How are you doing?”; “Wow that’s interesting! How’d you make it do that?”; “What’s your favorite part of your program/game/project so far?”

Choose Add-Ons and Create (0 minutes)

During this time, members customize their projects by trying some add-ons. Add-ons allow members to explore programming concepts and features as they follow the guidance and instruction in the videos.

1. Walk around, and encourage members to try the add-ons that interest them.
2. Help members navigate the add-ons menu.
3. If you notice that members have not saved or shared their projects (You will see a “See project page” button in the top right corner of the project editor on projects members have shared.), encourage them to do so before they continue working on add-ons.
CS First Reflection (2 minutes)

1. Get everyone’s attention using the silent signal.
2. Ask club members to click the next arrow until they reach the reflection page, then to complete the reflection.
3. Walk around, and ensure that club members are transitioning to the reflection page.
4. Give out participation badges (stickers).

Watch Wrap-Up Video (4 minutes)

1. Prompt club members to complete the club reflection, then move on to the wrap-up video.
2. Ask club members to write a shout-out for a clubmate. [optional]
3. Continue to circulate around the club, and pass out participation badges.
4. When the Agenda Timer indicates that 30 seconds remain in this section, remind club members about the time.

Share Projects (4 minutes)

1. Tell club members to return to Scratch, and click the "share" button.
2. Ask the club to begin sharing their projects with the person or people sitting next to them.
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Select Showcases (1 minute)

1. Display showcase selector on board (follow the link at the top of this club plan).
2. Get everyone’s attention using the silent signal and request that club members turn off their monitors. Ensure that all monitors are turned off before beginning (club members won’t need to use their computers again during this club).
3. Transition to the showcase selector.
4. Run the showcase selector.
5. Using the club roster, find and say the names of the club members selected.
6. Remind members to share their project.
7. Tell members what to do if they don’t want their project shown.

Club Discussion (4 minutes)

- Briefly review and highlight some G+ posts that club members made.
- Lead whole-club discussion.
- Preview next club.
- Exit.

Discussion questions:

- What was your favorite part of the activity?
- How did you use randomness in the project?
- How did you use variables?

Next club: Launcher Game
After members have exited the room:

- Collect all passports, headphones and unused stickies.
- Take down shout-outs from the G+ page and place them into their recipients' passports.
- Ensure that the computer lab is clean and that computers are in the state that the school prefers (i.e. shut down, monitor off, etc.).
- Turn off any equipment that you used (SMART Board, computer, etc).
- Turn off any lights and close door when leaving.
Activity 6: Launcher Game

Overview
In this activity, club members create a launcher game using key press events, clones, and variables. In this game, a player must launch and navigate a sprite across a screen of bouncing enemies.

Volunteer Focus
- Try to talk with each club member individually while they're coding this project. Ask if they have any questions about the project, the club, or computer science in general.

Agenda Summary
This agenda is designed for a 60-minute lesson. To customize the agenda for clubs of a different length, visit cs-first.com/dashboard and use the Agenda Timer.

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<td>7</td>
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<td>4</td>
<td>Watch Wrap-Up Video</td>
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<td>4</td>
<td>Share Projects</td>
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<td>1</td>
<td>Select Showcases</td>
</tr>
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<td>4</td>
<td>Club Discussion</td>
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</table>

Topics Introduced
- Cloning
- Increasing game difficulty

Topics Reinforced
- Variables
- Keypress Events
- Randomness

Resources
- Launcher Game Starter Project
  (http://scratch.mit.edu/projects/19411371/#editor)
Preparation

- Turn on all computers.
- Place member passports on a table.
- Visibly hang G+ community poster.
- Place at each workstation:
  - 1 pair of headphones
  - 1 pen/pencil
  - 1 sticky note [optional]
- On a classroom projector, display the following in multiple tabs:
  - Club agenda timer
  - Showcase selector- Click the link at the top of this page to open the showcase selector in a new tab.
  - Projects to showcase- Using the table at the bottom of the showcase selector, open the appropriate club member project pages and find the correct project. If you cannot find the project, ask the member to check if they shared the project (they can see this by signing in to Scratch and clicking "My Stuff").

Agenda

Introduction (5 minutes)

1. Greet members at the door as they arrive.
2. Ask members to pick up their passports, then sit at an empty computer and log in.
3. Once all members are seated and logging in to their computers, privately ask members who are sitting alone to move to a computer near other members.
4. Use the silent signal to get member attention.
5. Have all members turn off monitors and remove headphones before starting. It is important that you enforce this rule or members will use the computers instead of interacting.
6. Review previous club: Escape Game.

Can someone please raise their hand, and tell me what we worked on last club?

7. Introduce the activity: Launcher Game.

In this activity, you're going to build a "Launcher Game." You may have played other games that launch a character, for example, "Angry Birds." The Launcher Game, features a player who is launched through a sea of enemies. When the player touches the finish line, a new enemy appears. This game introduces cloning in Scratch, as well as a game development concept: increasing difficulty.

View Showcase Projects (3 minutes)

[For instructions on finding and selecting showcases, see the "Preparation" section of this club plan. Remember that club members can opt out of having their projects shown. If the selected club members do not want to showcase their projects, you may ask for one or two volunteers to show their projects.]

1. Transition to showcase.
2. Run first project and discuss.
3. Look at code by clicking the "See Inside" button.
4. Cheer and clap.
5. Repeat steps for any additional projects.
Transition to Computer Time (2 minutes)

1. Introduce computer time.
2. Remind members to use a sticky note if they have a question. [optional]
3. Remind members that at the end of this activity you will pick a few projects to share next club.
4. Have members turn on monitors and navigate to CS First website.
5. If there are new club members, provide them with your club code and ask them to go to cs-first.com/go to get sign-in information.

Watch Video 1 and Create (7 minutes)

Check that members have opened the starter project. The Solution Sheet shows an example of a blank starter project.
Check to ensure that members have signed in to Scratch by looking at the top right corner of their Scratch project editor. If you see their username, they are signed in. If you see a "Sign In" link, that member still needs to sign in. Members who haven't signed in will not be able to save their work.

Watch Video 2 and Create (8 minutes)

- Club members will program the sprite to launch from a starting position. Watch for club members who may have difficulty setting an x, y position for their sprite using the "go-to" block.
- Club members could possibly "lose" their sprite off the stage in this step. If you see this happen, a quick fix is to type the coordinates 0,0 into a "go to x, y" block, and click on the block. This will bring the sprite back to the middle of the stage.

Watch Video 3 and Create (7 minutes)

- Watch the agenda and remind members where they should be at this point in the club session.
- Help move members along individually who begin to fall behind.

Watch Video 4 and Create (8 minutes)

Cloning too many sprites can slow down computers, and in some extreme cases, crash the browser. While this in no way damages a computer or a club member’s project, it takes time away from coding. If you notice this is an issue in your club, stop the club for a moment and let members know that it can happen. Ask them to limit their clones to less than 20 (meaning only repeat the loop 20 times) so as to not crash the computer or browser.

If club members don’t have questions, it is still important to walk around the classroom and interact with everyone. The self-paced nature of CS First clubs ensures that you have time to work individually with club members even when questions aren’t being asked. Consider asking club members: “Can you tell me about what you’re working on?”; “How are you doing?”; “Wow that’s interesting! How’d you make it do that?”; “What’s your favorite part of your program/game/project so far?”

Watch Video 5 and Create (5 minutes)

Club members should watch the videos and build at their own pace. Some club members will work faster or slower than others. If you notice that club members are behind the times set by the agenda, work with them so that they’re able to finish the activity on time (the add-on selection page is not part of the core activity). Periodically, check for club members who are falling behind the agenda. Look at the video number on the CS First tab to determine where
a member is in his or her project.

Choose Add-Ons and Create (0 minutes)

During this time, members customize their projects by trying some add-ons. Add-ons allow members to explore programming concepts and features as they follow the guidance and instruction in the videos.

1. Walk around, and encourage members to try the add-ons that interest them.
2. Help members navigate the add-ons menu.
3. If you notice that members have not saved or shared their projects (You will see a "See project page" button in the top right corner of the project editor on projects members have shared.), encourage them to do so before they continue working on add-ons.

CS First Reflection (2 minutes)

1. Get everyone’s attention using the silent signal.
2. Ask club members to click the next arrow until they reach the reflection page, then to complete the reflection.
3. Walk around, and ensure that club members are transitioning to the reflection page.
4. Give out participation badges (stickers).

Watch Wrap-Up Video (4 minutes)

1. Prompt club members to complete the club reflection, then move on to the wrap-up video.
2. Ask club members to write a shout-out for a clubmate. [optional]
3. Continue to circulate around the club, and pass out participation badges.
4. When the Agenda Timer indicates that 30 seconds remain in this section, remind club members about the time.

Share Projects (4 minutes)

1. Tell club members to return to Scratch, and click the "share" button.
2. Ask the club to begin sharing their projects with the person or people sitting next to them.
3. Walk around and encourage club members who haven’t shared their projects (the share button will still be visible in the top-right corner of the screen) to do so. If club members don’t wish to share, that’s okay. Ensure that all club members are engaging in this social aspect of the club by either sharing their project with a neighbor, or talking to other club members about their project.

Select Showcases (1 minutes)

1. Display showcase selector on board (follow the link at the top of this club plan).
2. Get everyone’s attention using the silent signal and request that club members turn off their monitors. Ensure that all monitors are turned off before beginning (club members won’t need to use their computers again during this club).
3. Transition to the showcase selector.
4. Run the showcase selector.
5. Using the club roster, find and say the names of the club members selected.
6. Remind members to share their project.
7. Tell members what to do if they don't want their project shown.

**Club Discussion (4 minutes)**

- Briefly review and highlight some G+ posts that club members made.
- Lead whole-club discussion.
- Preview next club.
- Exit.

**Discussion questions:**

- What was your favorite part of the activity?
- How did you use events in your project?
- How did you use randomness?
- What concept did you use to store the player's score? [variables]

**Next club:** Quest Game (RPG)

**After members have exited the room:**

- Collect all passports, headphones and unused stickies.
- Take down shout-outs from the G+ page and place them into their recipients' passports.
- Ensure that the computer lab is clean and that computers are in the state that the school prefers (i.e. shut down, monitor off, etc.).
- Turn off any equipment that you used (SMART Board, computer, etc).
- Turn off any lights and close door when leaving.
Activity 7: Quest Game

Overview

In this activity, club members learn how to use storytelling in video game design while building an RPG style Quest Game.

Volunteer Focus

- Ensure that club members maintain pace using the club schedule and/or agenda timer.

Agenda Summary

This agenda is designed for a 60-minute lesson. To customize the agenda for clubs of a different length, visit cs-first.com/dashboard and use the Agenda Timer.

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<td>Watch Video 1 and Complete the Survey</td>
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<td>Watch Video 2 and Create</td>
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<td>Watch Video 5 and Create</td>
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<td>Watch Video 6 and Create</td>
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<td>Choose Add-Ons and Create</td>
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<tr>
<td>1</td>
<td>Start Wrap-Up- Share Projects in Scratch</td>
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<tr>
<td>3</td>
<td>Show Projects</td>
</tr>
<tr>
<td>2</td>
<td>CS First Reflection</td>
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<tr>
<td>4</td>
<td>Watch Wrap-Up Video</td>
</tr>
<tr>
<td>1</td>
<td>Select Showcases</td>
</tr>
<tr>
<td>4</td>
<td>Club Discussion</td>
</tr>
</tbody>
</table>

Topics Introduced

- Events (broadcast)
Preparation

- Turn on all computers.
- Place member passports on a table.
- Visibly hang G+ community poster.
- Place at each workstation:
  - 1 pair of headphones
  - 1 pen/pencil
  - 1 sticky note [optional]
- On a classroom projector, display the following in multiple tabs:
  - Club agenda timer
  - Showcase selector- Click the link at the top of this page to open the showcase selector in a new tab.
  - Projects to showcase- Using the table at the bottom of the showcase selector, open the appropriate club member project pages and find the correct project. If you cannot find the project, ask the member to check if they shared the project (they can see this by signing in to Scratch and clicking "My Stuff").

Agenda

Introduction (5 minutes)

1. Greet members at the door as they arrive.
2. Ask members to pick up their passports, then sit at an empty computer and log in.
3. Once all members are seated and logging in to their computers, privately ask members who are sitting alone to move to a computer near other members.
4. Use the silent signal to get member attention.
5. Have all members turn off monitors and remove headphones before starting. It is important that you enforce this rule or members will use the computers instead of interacting.
6. Review previous club: Launcher Game.
   Can someone please raise their hand and tell me what we worked on last club?
7. Introduce the activity's concept: Broadcast.
   In this activity, you'll learn about a special type of event called broadcast. Broadcast has two parts: a “broadcast” block that sends a message and a “when I receive” block that receives that message and runs code when it does.
8. Introduce this activity's project.
   While learning about broadcast, you'll build a Role Playing Game or RPG. Some popular examples of RPG games are the Legend of Zelda, and pokemon series.

View Showcase Projects (3 minutes)

[For instructions on finding and selecting showcases, see the "Preparation" section of this club plan. Remember that club members can opt out of having their projects shown. If the selected club members do not want to showcase their projects, you may ask for one or two volunteers to show their projects.]

1. Transition to showcase.
2. Run first project and discuss.
3. Look at code by clicking the "See Inside" button.
4. Cheer and clap.
5. Repeat steps for any additional projects.
Transition to Computer Time (2 minutes)

1. Introduce computer time.
2. Remind members to use a sticky note if they have a question. [optional]
3. Remind members that at the end of this activity you will pick a few projects to share next club.
4. Have members turn on monitors and navigate to CS First website.
5. If there are new club members, ask them to go to cs-first.com/firstday to watch an introductory video.

Watch Video 1 and Complete the Survey (5 minutes)

1. After members have signed in to CS-First.com, they should begin watching the first video. This video introduces a brief survey. Once members have finished the survey, they should switch back to CS-First.com and move on to the next video.
2. If a member appears frustrated by the survey, particularly the Scratch content question, remind him or her to try their best and that there are no right or wrong answers. It is more important for members to feel comfortable giving their honest opinions.

How are you doing? [wait for response] Don't worry about getting all the answers right. Make your best guess and move on so you can get to the more exciting part-- creating!

Watch Video 2 and Create (3 minutes)

This video introduces the Quest Game. Circulate around the room and ensure that club members are moving on from the survey. This activity has more videos than most, so maintaining time is important.

Watch Video 3 and Create (8 minutes)

During this step, club members must copy code from one entrance sprite to the other entrance sprites. To do this, drag and drop the three code stacks from one sprite to the others, and change the values in the "switch backdrop to" block. If club members find this step challenging, encourage them to go back to the video, and ask neighbors for help.

Watch Video 4 and Create (7 minutes)

- After watching the previous video club members should have a basic Quest Game with a sprite that can enter different locations. This video, and those that follow, club members add to the functionality and playability of the game.
- This video uses many different events, and looks blocks with different values. In debugging club members' programs, it may help to read the code aloud to find any potential errors.

Watch Video 5 and Create (6 minutes)

- In this video, club members hide an object at one location in the game. This serves as the game's plot. Encourage club members to talk about the plot of their game, and share with their neighbors which object they selected, where they hid it, and why.

Watch Video 6 and Create (6 minutes)

- During this video club members add slides that play at the beginning of the story. If club members continue to work on their story after this video (like with the add-ons), you may choose to instruct them to disable this block stack by removing the "when flag clicked" block for the time being. Doing this will temporarily stop the title slides from showing and enable club members to test their code more quickly.
Choose Add-Ons and Create (0 minutes)

During this time, members customize their projects by trying some add-ons. Add-ons allow members to explore programming concepts and features as they follow the guidance and instruction in the videos.

1. Walk around, and encourage members to try the add-ons that interest them.
2. Help members navigate the add-ons menu.
3. If you notice that members have not saved or shared their projects (You will see a "See project page" button in the top right corner of the project editor on projects members have shared.), encourage them to do so before they continue working on add-ons.

Start Wrap-Up- Share Projects in Scratch (1 minute)

1. Ask the club to begin the wrap-up procedures by clicking the wrap-up button (next to the number buttons below videos) in CS First and sharing their projects in Scratch.
2. Walk around and encourage club members who haven’t shared their projects (the share button will still be visible in the top-right corner of the screen) to do so. If club members don’t wish to share, that’s okay.

Show Projects (3 minutes)

1. Get everyone’s attention using the silent signal.
2. Introduce showing time.
3. Prompt club members to begin showing projects.
4. After you tell club members to begin showing, walk around the club and ensure that everyone is showing their project to someone. If you see club members who are still working or who don’t have a partner, encourage them to join another pair and show their work. If club members do not want to show their project that’s okay. However, they should still take part in this social aspect of the club by looking at fellow club members’ projects.

CS First Reflection (2 minutes)

1. Get everyone’s attention using the silent signal.
2. Transition club members back to their computers to reflect on what they learned during this activity.
3. As club members transition back to computers, ensure that they are able to locate and complete the reflection.
4. During the next part of the club, while members watch the wrap-up video, you will award participation badges (stickers). It may be helpful to find them now in your CS First materials.

Watch Wrap-Up Video (4 minutes)

[Note: While club members watch the wrap-up video, walk around and give out the participation badges (stickers) from your club kit to each club member that was present for this activity.]

1. Prompt club members to complete the Club Reflection, then move on to the Wrap-Up video.
2. Ask club members to write a shout-out for a clubmate. [optional]
3. Circulate around the club, and pass out participation badges. Club members can stick the badges in their passports.
4. When the Agenda Timer indicates that 30 seconds remain in this section, remind club members about the time.
Select Showcases (1 minutes)

Note: This activity contains the last showcase selection. If you still have club members who have yet to be selected to showcase, ask them today if they would like a project showcased for Activity 8.

1. Display showcase selector on board (follow the link at the top of this club plan).
2. Get everyone’s attention using the silent signal and request that club members turn off their monitors. Ensure that all monitors are turned off before beginning (club members won’t need to use their computers again during this club).
3. Transition to the showcase selector.
4. Run the showcase selector.
5. Using the club roster, find and say the names of the club members selected.
6. Remind members to share their project.
7. Tell members what to do if they don’t want their project shown.

Club Discussion (4 minutes)

- Briefly review and highlight some G+ posts that club members made.
- Lead whole-club discussion.
- Preview next club.
- Exit.

Discussion questions:

- What was your favorite part of the activity?
- What was the most challenging aspect of building this project?
- What are some new things that you learned or discovered?

Next club: Cave Surfing

After members have exited the room:

- Collect all passports, headphones and unused stickies.
- Take down shout-outs from the G+ page and place them into their recipients' passports.
- Ensure that the computer lab is clean and that computers are in the state that the school prefers (i.e. shut down, monitor off, etc.).
- Turn off any equipment that you used (SMART Board, computer, etc).
- Turn off any lights and close door when leaving.
Activity 8: Cave Surfing Game

Overview
In Activity 8 of CS First Game Design, club members create a game with a side scrolling background (similar to the popular game Flappy Bird). In this game, the player sprite moves up and down to avoid obstacles. This club ends with certificate distribution and a closing reflective discussion.

Volunteer Focus
- Ensure that club members find success in the final activity and that they leave CS First having had a positive final experience.
- Successfully close the club by handing out certificates and thanking club members for their participation.

Agenda Summary
This agenda is designed for a 60-minute lesson. To customize the agenda for clubs of a different length, visit cs-first.com/dashboard and use the Agenda Timer.

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<td>4</td>
<td>Watch Wrap-Up Video</td>
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<td>4</td>
<td>Share Projects</td>
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<tr>
<td>6</td>
<td>Certificate Distribution and Final Thanks</td>
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</table>

Topics Introduced
- Scrolling backgrounds

Topics Reinforced
- If Statements
- Random Operators
- Motion Blocks
- Key Press Events
Preparation

- Turn on all computers.
- Place member passports on a table.
- Visibly hang G+ community poster.
- Place at each workstation:
  - 1 pair of headphones
  - 1 pen/pencil
  - 1 sticky note [optional]
- On a classroom projector, display the following in multiple tabs:
  - Club agenda timer
  - Showcase selector- Click the link at the top of this page to open the showcase selector in a new tab.
  - Projects to showcase- Using the table at the bottom of the showcase selector, open the appropriate club member project pages and find the correct project. If you cannot find the project, ask the member to check if they shared the project (they can see this by signing in to Scratch and clicking "My Stuff").
- Prepare CS First Completion Certificates: You will receive a blank set of certificates for all club members who attend the final activity of the club or who have attended regularly. For club members who have attended regularly but who miss the final activity of the club, hand certificates to the club host to distribute later. To prepare certificates, write club member names (from club roster) on them and sign. To print your own certificates, visit your club dashboard.

Agenda

Introduction (5 minutes)

1. Greet members at the door as they arrive.
2. Ask members to pick up their passports, then sit at an empty computer and log in.
3. Once all members are seated and logging in to their computers, privately ask members who are sitting alone to move to a computer near other members.
4. Use the silent signal to get member attention.
5. Have all members turn off monitors and remove headphones before starting. It is important that you enforce this rule or members will use the computers instead of interacting.
6. Review previous club: Quest Game.
7. Introduce the activity: Cave Surfing.

   Can someone please raise their hand and tell me what we worked on last club?

7. Introduce the activity: Cave Surfing.

   In this activity, you'll create a game with a scrolling background. Raise your hand if you've ever heard of or seen the game Flappy Bird. [wait] Great! Well, Flappy Bird uses a scrolling backdrop to create the illusion of forward movement. The game you create in this activity will feature a sprite that must fly though a cave without touching the walls. It will require the use of events, movement, "repeat" blocks, and if statements. It will also introduce a new computer science concept: If-else statements.

View Showcase Projects (3 minutes)

[For instructions on finding and selecting showcases, see the "Preparation" section of this club plan. Remember that club members can opt out of having their projects shown. If the selected club members do not want to showcase their projects, you may ask for one or two volunteers to show their projects.]

1. Transition to showcase.
2. Run first project and discuss.
3. Look at code by clicking the "See Inside" button.
4. Cheer and clap.
5. Repeat steps for any additional projects.

Transition to Computer Time (2 minutes)

1. Introduce computer time.
2. Remind members to use a sticky note if they have a question. [optional]
3. Remind members that at the end of this activity you will pick a few projects to share next club.
4. Have members turn on monitors and navigate to CS First website.
5. If there are new club members, provide them with your club code and ask them to go to cs-first.com/go to get sign-in information.

Watch Video 1 and Create (4 minutes)

- After watching this video, club members should open the starter project and add a player sprite. Encourage club members to move on from this step quickly.

Watch Video 2 and Create (6 minutes)

- In this step, club members will program the cave sprites to scroll across the screen. Encourage club members to tinker with the value of "Change Distance Traveled" to ensure that the backdrops scroll at an appropriate speed for their game.
- If club members lose their player sprite behind the cave sprites, instruct them to select the player sprite, click the "looks" menu, and click the "go to front" block to make the sprite appear in front of the caves.

Watch Video 3 and Create (10 minutes)

- A common mistake during this step is to select an "if" statement rather than an "if-else." If you notice that club members do this, allow them to first attempt to debug the problem on their own, and only step in if they ask for help or they're falling behind.

Watch 4 and Create (10 minutes)

- This video does not give step-by-step instructions for how to program this step. Some club members may find this step easy, while others may find it difficult. Encourage club members to work together on this step. It may help to remind club members that that they should use "if statements" and that the cave walls all have a black border (for the losing condition). Remind club members to approach the problem one step at a time, and to try to program either a winning or losing condition first.

Choose Add-Ons and Create (0 minutes)

During this time, members customize their projects by trying some add-ons. Add-ons allow members to explore programming concepts and features as they follow the guidance and instruction in the videos.

1. Walk around, and encourage members to try the add-ons that interest them.
2. Help members navigate the add-ons menu.
3. If you notice that members have not saved or shared their projects (You will see a "See project page" button in the top right corner of the project editor on projects members have shared.), encourage them to do so before they continue.
CS First Reflection (2 minutes)

1. Get everyone’s attention using the silent signal.
2. Ask club members to click the next arrow until they reach the reflection page, then to complete the reflection.
3. Walk around, and ensure that club members are transitioning to the reflection page.
4. Give out participation badges (stickers).

Watch Wrap-Up Video (4 minutes)

1. Prompt club members to complete the club reflection, then move on to the wrap-up video.
2. Ask club members to write a shout-out for a clubmate. [optional]
3. Continue to circulate around the club, and pass out participation badges.
4. When the Agenda Timer indicates that 30 seconds remain in this section, remind club members about the time.

Share Projects (4 minutes)

1. Tell club members to return to Scratch, and click the “share” button.
2. Ask the club to begin sharing their projects with the person or people sitting next to them.
3. Walk around and encourage club members who haven’t shared their projects (the share button will still be visible in the top-right corner of the screen) to do so. If club members don’t wish to share, that’s okay. Ensure that all club members are engaging in this social aspect of the club by either sharing their project with a neighbor, or talking to other club members about their project.

Certificate Distribution and Final Thanks (6 minutes)

1. Get members’ attention.

   [Silent Signal] Can I please have everyone’s monitors off and eyes up here?

2. G+ shout-outs.

   If you haven’t already done so, it’s time to bring up your G+ shout-out and post it to the G+ community poster.
   [wait] Awesome, I’m going to read a few of these shout-outs [read 3 shout-outs]. Take a look at the shout-outs that people wrote on your way out of the room.

3. Transition into certificate distribution.

   For all your hard work in this club, each of you will receive a certificate for your successful completion of CS First Game Design. When I call your name, please stand up, walk to the front, shake both Gurus’ hands, and receive your certificate. Please hold your applause until everyone’s names have been called, then we will all clap and cheer together.

4. Call up individuals to receive their certificate, shake their hand and thank them for their participation.
5. After all individuals have been called up, ask for a round of applause for everyone.

   Can we have a round of applause for everyone?

6. Ask the reflection questions below.

   Let’s all take a moment to reflect on what you’ve learned and enjoyed in CS First.
7. Remind club members that they can continue to work in Scratch and seek out CS opportunities after this club ends.

Remember that after this club ends you can continue to work in Scratch. Your CS First username and password are yours to keep.

8. Remind club members to look for CS courses in high school and college.

If you've enjoyed what you've worked on in this club, you should seek out computer science courses and clubs in high school and college. With more exposure to computer science, you may find that computer science is a career that you want to pursue.

9. Tell club members that they get to keep their passports.

When we exit today, you can take your passport home with you. The headphones, however, should stay in the room.

10. Ask the class to say thank-you to the program host.

Before we exit, let's all say thank-you to our program host for supporting this club.

11. Thank the club members for participating.

Sample: Thank you all for participating in this club. I had a lot of fun and I learned a lot. I would like to wish you all the best in your future computer science endeavors!

12. Dismiss the club.

Once I see that all computers are shut off and the headphones are wrapped, we'll exit. Remember to take your passports home with you!

13. High-five club members on their way out.

Reflection Questions:

- What was your favorite program that you made in this club and why?
- What was the most surprising thing that you were able to do?
- What was the most important thing that you learned about computer science?
- What do computer scientists do?
- Does anyone have any questions for me about what we've worked on in this club or about computer science in general?

After members have exited the room:

- Collect all passports, headphones and unused stickies.
- Take down shout-outs from the G+ page and place them into their recipients' passports.
- Ensure that the computer lab is clean and that computers are in the state that the school prefers (i.e. shut down, monitor off, etc.).
- Turn off any equipment that you used (SMART Board, computer, etc).
- Turn off any lights and close door when leaving.