Sessions

Session #1

Session description
In this session, students are introduced to computational creation with the Scratch programming environment by viewing a collection of sample projects and engaging in an exploratory, hands-on experience.

Objectives
The students will:
- understand the concept of computational creation, in the context of Scratch
- be able to imagine possibilities for their own Scratch-based computational creation
- become familiar with resources that support their computational creation

Session activities summary
- Introduce the concept of computational creation and the Scratch environment
- Show sample Scratch projects
- Review design processes
- Explore the Scratch interface

Resources
- Scratch overview video (*optional*) http://vimeo.com/29457909
- Collection of sample projects
- Design notebooks (*may be digital*)
- Resources library items (*Scratch cards, etc.*)

Session description

~Min.	Activities

15	*Planning: What is creative computing?*
	 • Ask students:
	     o What are the different ways you interact with computers?
	     o How many of those ways involve you *creating* with computers?
	 • Explain that over the next several sessions they will be creating their own interactive computational media with Scratch.
	 • Show a basic demo of Scratch, either through a live demo or through the Scratch overview video.
	     o You build projects by snapping blocks together, just as you can build things in the physical world by snapping LEGO bricks together.
	     o There are more than 100 blocks in 8 different categories.
	     o As a small example, let's make the cat do a dance.
	     o Start by dragging out the "move 10 steps" block from the "Motion" blocks palette to the scripting area. Every time you click on the block the cat moves a distance of 10. You can change the number to make the cat move a greater or smaller distance.

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- From the "Sound" palette, drag out the "play drum" block. Click on the block to hear its drum sound. Drag and snap the "play drum" block below the "move" block. When you click on this stack of two blocks, the cat will move and then play the drum sound.
- Copy this stack of blocks (either using the Duplicate toolbar item or by right-clicking the stack and selecting "duplicate") and snap the copy to the already-placed blocks. Change the second "move" block to -10 steps, so the cat moves backward. Every time the stack of four blocks is clicked, the cat does a little dance forward and back.
- Go to the "Control" blocks palette and grab the "repeat" block. Wrap the "repeat" block around the other blocks in the scripting area. Now when you click on the stack, the cat dances forward and back 10 times.
- Finally, drag the "when Sprite clicked" block and snap it to the top of the stack. Click on the cat (instead of the blocks stack) to make the cat dance.
- Show the range of projects they will be able to create, by sharing some sample projects that students will find engaging and inspiring. The Scratch website (http://scratch.mit.edu) has many interesting examples.

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15	*Planning: Defining the processes of computational design*
	 • Introduce students to the other tools that they will have access to during their design activities:
	     o Design notebook, for recording their ideas and plans, as well as for responding to the per-session design notebook question
	     o Resource library, for accessing other forms of support, such as Scratch cards, or reminders of strategies for getting unstuck
	     o Scratch website, for storing their projects and finding inspiration and help

10	*Exploring: Something surprising* • Give students 10 minutes to explore the Scratch interface in an open-ended way. One prompt is: "You have 10 minutes to make something surprising happen to a sprite." Students are encouraged to work together, ask each other for help, and share what they are figuring out during the 10 minutes.

20	*Reflecting: Our discoveries*
	 • Ask for 3 or 4 volunteers to share with the entire group *one thing* that they discovered.
	 • Optionally, after the volunteers have shared, offer several challenges to the students:
	     o Did anyone figure out how to add sound?
	     o Did anyone figure out how to change the background?
	     o Did anyone figure out how to access the help screens for particular blocks?

Notes

A major goal of this session is to establish a culture of fearlessness, exploration, and peer collaboration. It is expected that students (and their teachers!) will not know everything ahead of time – and the environment becomes a space where everyone is learning together.

Session #2

Session description
In this session, students build on their initial explorations of the Scratch environment by creating an interactive project.

Objectives
The students will:
* become familiar with a wider range of Scratch blocks
* be able to create a Scratch project that is an interactive digital representation of their interests

Session activities summary
* Respond to design notebook question
* Create Scratch biography projects
* Share and discuss creations

Resources
* *About me* handout
* *About me* sample projects (*optional*)

Session description

~Min.	Activities
5	*Reflecting: Design notebook question* • What are three aspects of yourself that you could represent through images or sound?
40	*Creating: About me* • Introduce students to the concept of the interactive collage, a Scratch project that represents aspects of themselves through clickable sprites. Optionally, show a couple of different interactive "About me" projects. • Give students 35 minutes to work on their projects, with the "About me" handout available to provide guidance for blocks to experiment with.

15	*Reflecting: My design process*
	• Invite 2 or 3 students to share their "About me" projects and encourage others to ask questions about their design process:
	  o What was your inspiration?
	  o How did you do that?
	  o What did you get stuck on? How did you get unstuck?
	  o What are you most proud of? Why?
	  o What might you want to do next?
	• Ask students to post their projects on the Scratch website. (*optional*)

Notes
Example projects can simultaneously inspire and intimidate, open the creative space and constrain it. Encourage a wide range of creations – diversity is great.