

Getting Started with Scratch

ScratchEd Webinar Series

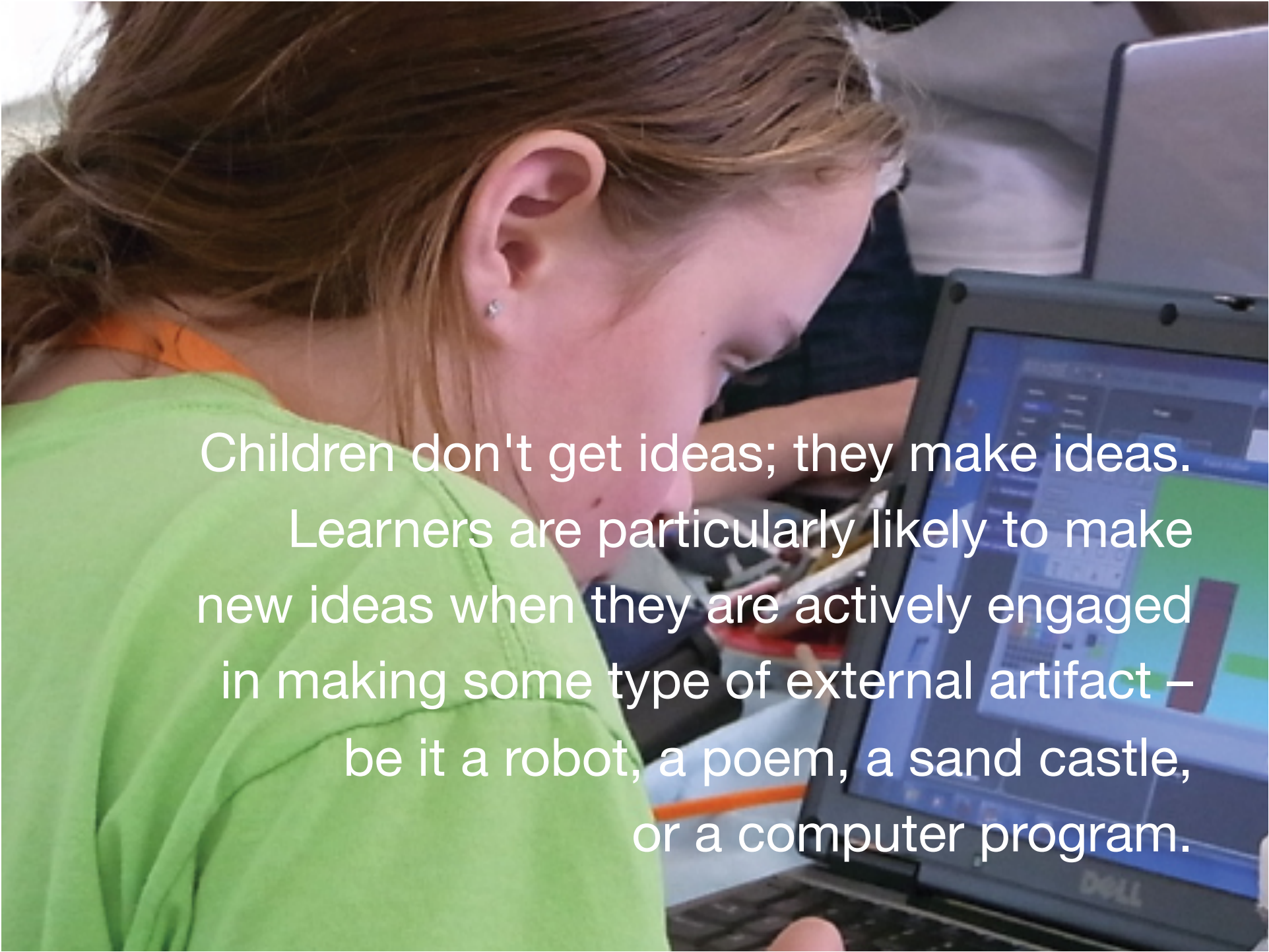
Wednesday, September 28, 2011

7pm – 8pm EST

Karen Brennan and Mitch Resnick

**What are different strategies for
helping people get started with
Scratch?**

Design-Based Learning



Children don't get ideas; they make ideas.
Learners are particularly likely to make
new ideas when they are actively engaged
in making some type of external artifact –
be it a robot, a poem, a sand castle,
or a computer program.

High Ceiling



Low Floor

High Ceiling

Wide Walls

Low Floor

Creativity is a
social process





Reflection helps us identify what we know and what we need to know

Tonight:

**The set of activities that are described
in the Scratch curriculum guide**

:

Session #	Activities
1	Planning: What is creative computing?
	Planning: Defining computational design processes
	Exploring: Something surprising
	Reflecting: Our discoveries
2	Reflecting: Design notebook question
	Creating: About me
	Reflecting: My design process

Planning: What is creative computing?

Motivation

Planning: What is creative computing?

Motivation

Why are we doing this?

creative expression, or
technological awareness, or
computer science expertise, or...

Planning: What is creative computing?

Motivation

Why are we doing this?

creative expression, or
technological awareness, or
computer science expertise, or...

What questions are relevant to this context?

What are the different ways you interact with computers?
How many of those ways involve you *creating* with computers?

Planning: What is creative computing?

Orientation

Planning: What is creative computing?

Orientation

What is the tool that we'll be using? How does it work?

Demo

SCRATCH



File Edit Share Help



Motion

Control

Looks

Sensing

Sound

Operators

Pen

Variables



Sprite1



x: 0

y: 0

direction: 90

Scripts

Costumes

Sounds

move 10 steps

turn 15 degrees

turn 15 degrees

point in direction 90

point towards

go to x: 0 y: 0

go to

glide 1 secs to x: 0 y: 0

change x by 10

set x to 0

change y by 10

set y to 0

if on edge, bounce

☐ x position☐ y position☐ direction

New sprite:



x: 294 y: -117



Sprite1



Stage

SCRATCH



File Edit Share Help



Motion

Control

Looks

Sensing

Sound

Operators

Pen

Variables



Sprite1

x: 0 y: 0 direction: 90

Scripts

Costumes

Sounds

when green flag clicked

when space key pressed

when Sprite1 clicked

wait 1 secs

forever

repeat 10

broadcast

broadcast and wait

when I receive

forever if

if

if

else

forever

move 10 steps

play drum 48 for 0.2 beats

move -10 steps

play drum 39 for 0.2 beats



New sprite:



x: -547 y: 54



Sprite1



Stage

SCRATCH



File Edit Share Help



Motion

Control

Looks

Sensing

Sound

Operators

Pen

Variables



Sprite1



x: 120 y: -241 direction: 90

Scripts

Costumes

Sounds

man on moon collage



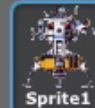
New sprite:



x: 257 y: -386



neil



Sprite1



Stage

SHOW A
LITTLE

<

>

SHOW A
LOT

SHOW A
LITTLE

<

>

SHOW A
LOT

freedom
vs.
fear

SHOW A
LITTLE

<

>

SHOW A
LOT

freedom
vs.
fear

support
vs.
stifle

Planning: What is creative computing?

Orientation

What is the tool that we'll be using? How does it work?

Demo

Planning: What is creative computing?

Orientation

What is the tool that we'll be using? How does it work?

Demo

What can I create with it?

Examples

SCRATCH



File Edit Share Help



Motion

Control

Looks

Sensing

Sound

Operators

Pen

Variables



Sprite1



x: -54 y: 2 direction: 90

Scripts

Costumes

Sounds

when clicked

when space key pressed

when Sprite1 clicked

wait 1 secs

forever

repeat 10

broadcast

broadcast and wait

when I receive

forever if

if

if

else

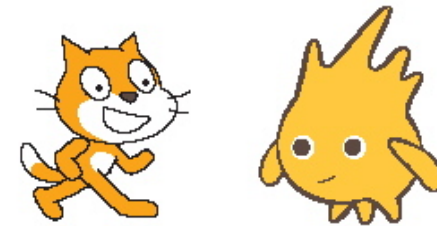
when clicked

go to x: -170 y: 2

glide 1 secs to x: -54 y: 2

say Hi Gobo! for 2 secs

wait 2 secs



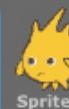
New sprite:



x: 275 y: -331



Sprite1



Sprite2



Stage

SCRATCH



File Edit Share Help



Motion

Control

Looks

Sensing

Sound

Operators

Pen

Variables

move 10 steps

turn 15 degrees

turn 15 degrees

point in direction 90

point towards

go to x: 178 y: 20

go to

glide 1 secs to x: 178 y: 20

change x by 10

set x to 0

change y by 10

set y to 0

if on edge, bounce

☐ x position☐ y position☐ direction

Sprite1



x: 178 y: 20 direction: 90

Scripts

Costumes

Sounds

when green flag clicked

show

wait 15 secs

hide

Aspergers Lesson 2- Family Dinner Disaster



x: 240 y: 156

New sprite:



Sprite1



Sprite2



Sprite3



Sprite4



Sprite5



Sprite6



Sprite7



Sprite8



Sprite9



Sprite1...



Sprite1...



Sprite1...



Sprite1...



Sprite1...



Stage



Sprite1...



Sprite1...



Sprite1...



Sprite1...



Sprite1...



Sprite2...



Sprite2...



Sprite2...



Sprite2...



Sprite2...



Sprite2...



Sprite2...



Sprite2...



Sprite2...





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by [ponycar2](#)



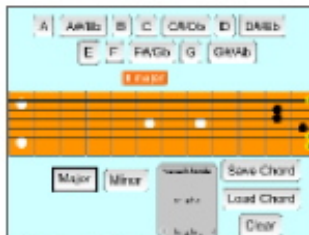
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by [kris0707](#)



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by [cheesecheese01](#)



[Stone Age!](#)
by [Hotwire](#)



[Virtual Guitar](#)
by [hpotter134](#)



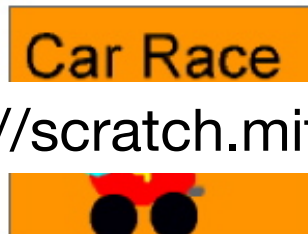
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by [Foxgirlgamer](#)



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by [iohndo77](#)



[fireflies vid...](#)
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by [technoguvx](#)



Gallery owner: [ScratchEdTeam](#)

Created: 1 week, 3 days ago

Gallery description

A curated set of interesting sample projects to showcase the range and diversity of creations that can be made with Scratch.

<http://scratch.mit.edu/galleries/view/137903>

EASY TO
READ

<

>

REALLY
DAZZLES

EASY TO
READ

<

>

REALLY
DAZZLES

inspire
vs.
intimidate or constrain



Intro to Scratch

by ScratchEd PLUS
6 days ago



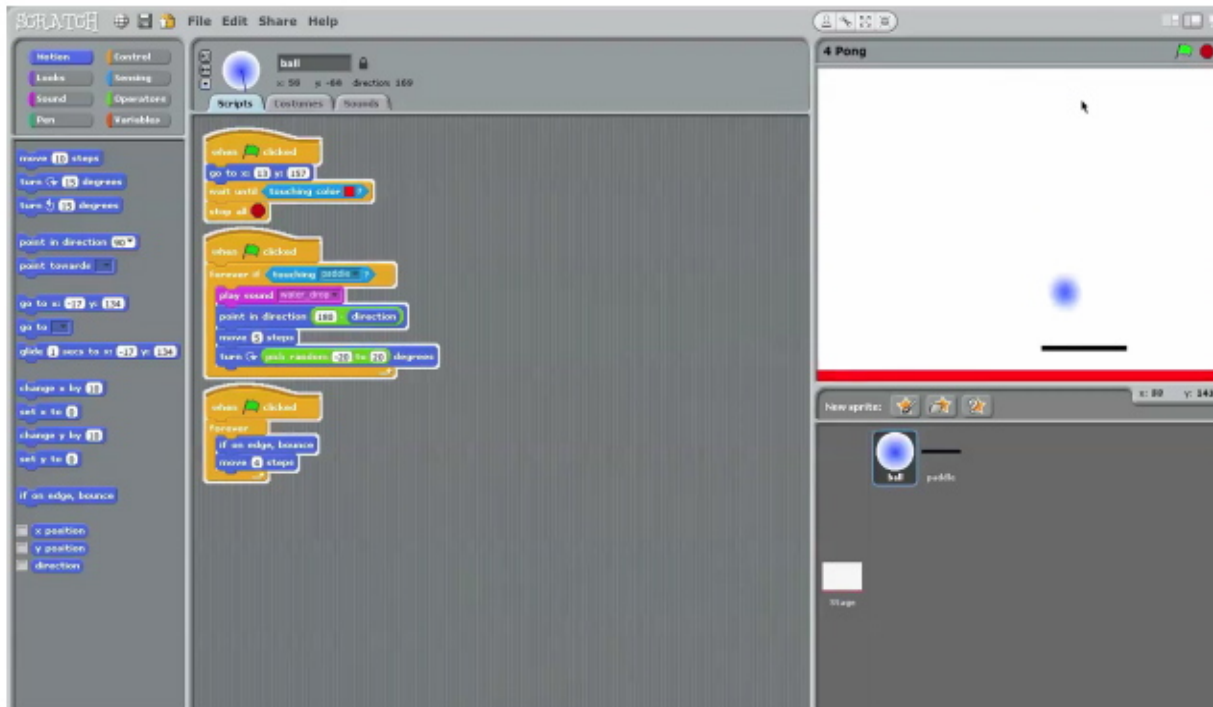
Couch Mode



Settings



Delete



More

Add

Add to Groups

☐ ScratchEd Show & Tell

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You have not created a channel yet.
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[New Channel](#)

Add to Albums

You have not created an album yet.
[Create one now!](#)

[New Album](#)

Scratch is a programming language for young people to create their own interactive stories, games, music, and art.

Scratch was created by the Lifelong Kindergarten Group at the

scratch.mit.edu

<http://vimeo.com/29457909>

Planning: Defining design processes

Design notebook



Design-Based Learning



designing
creating things,
not just using or
interacting with
things

personalizing
creating things
that are personally
meaningful and
relevant



collaborating
working with
others on creations

reflecting
reviewing and



5 ways to use Scratch in the arts

- 1) movie making
- special effects
- 2) visual representations of music
- 3) "moving" or animated comics
- 4) ~~auto~~ music plays, then student plays manually
- 5) create some kind of interior design

(Shade) →
brush with small brush

Story

new sketch
□ (control)

go to 0, 0
move 10 steps
Turn 360 degrees (Look)
Move 10 steps

Look Say It's great to
Control (wait 4 sec)
Say I love being

Second Sprite
wait?

broadcast
(walking car)

□ go to (when I receive)
Repeat
about 3 steps
Play sound

Planning: Defining design processes

Design notebook

Resources



Planning: Defining design processes

Design notebook

Resources

Scratch website



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Create and share your own interactive stories, games, music, and art

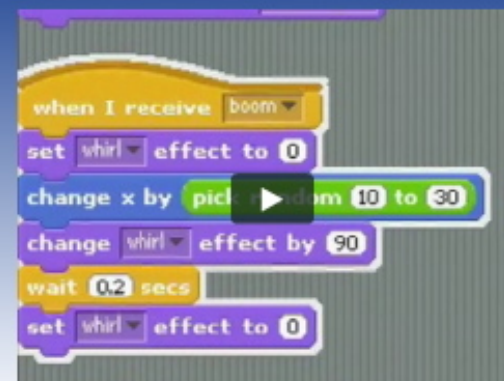
[Check out](#) the 2,044,026 projects from around the world!



To create your own projects:



Download Scratch



Featured Projects

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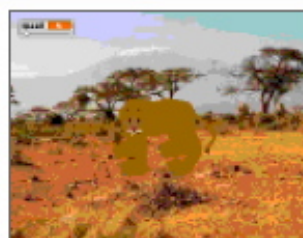
CyberSchool

Start

[CyberSchool Game](#)
by [LittleWarrior12](#)

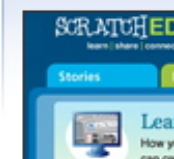


[LaundryQuest 2 ...](#)
by [kreechurkid](#)



[3D lioness](#)
by [anuw](#)

ScratchEd



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Scratch Design Studio

[When I grow up...](#)



Make a project showing what you might want to be when you grow up!

Projects Selected by ellcharstark

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Video Tutorials

Want to start creating Scratch projects? Check out this collection of video tutorials.

Whoa! Check out
my interactive
colors!



Rainbow Fish

Learn to change the color of your
sprite

Featured Blocks

when space key pressed

change color effect by 25

More on effects!



Whirling Butterfly

Learn to change your sprite's
graphic effects by moving your
mouse

Featured Blocks

when clicked

forever

set color effect to 0



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Scratch

Forum	Topics	Posts	Last post
 Announcements Watch here for the latest releases of Scratch, and other announcements.	117	17012	Today 12:52:35 by orangeduelmaster1
 New Scratch Members This is a forum to welcome new Scratchers to the community. Please post helpful information for new Scratch Members here.	2812	22842	Today 13:53:33 by shiguy101
 Show and tell Tell everyone about your projects and galleries.	19320	90138	Today 12:56:21 by sportsdude6
 FAQ Frequently Asked Questions	73	3127	2011-09-26 03:48:01 by scimonster
 All About Scratch Questions about Scratch? No question is too basic!	8395	57379	Today 12:10:52 by Bigwheel73
 Advanced Topics Talk about technical aspects or advanced features.	3413	55953	Today 13:00:09 by WindowsExplorer
 Suggestions Ideas for the next version of Scratch or improvements to the Website? Post here.	4509	41445	Today 11:45:27 by DigiTechs
 Troubleshooting Problems with Scratch? Think you've found a bug? Post here.	4477	28540	Today 12:45:33 by schusteralex2
 Sensor Boards Topics relating to Scratch Boards, PicoBoards, and Scratch	186	1383	2011-09-26 15:30:00 by KrlsMa

Exploring: Something surprising

SCRATCH



File Edit Share Help



Motion

Control

Looks

Sensing

Sound

Operators

Pen

Variables



Sprite1



x: 0

y: 0

direction: 90

Scripts

Costumes

Sounds

move 10 steps

turn 15 degrees

turn 15 degrees

point in direction 90

point towards

go to x: 0 y: 0

go to

glide 1 secs to x: 0 y: 0

change x by 10

set x to 0

change y by 10

set y to 0

if on edge, bounce

☐ x position☐ y position☐ direction

New sprite:



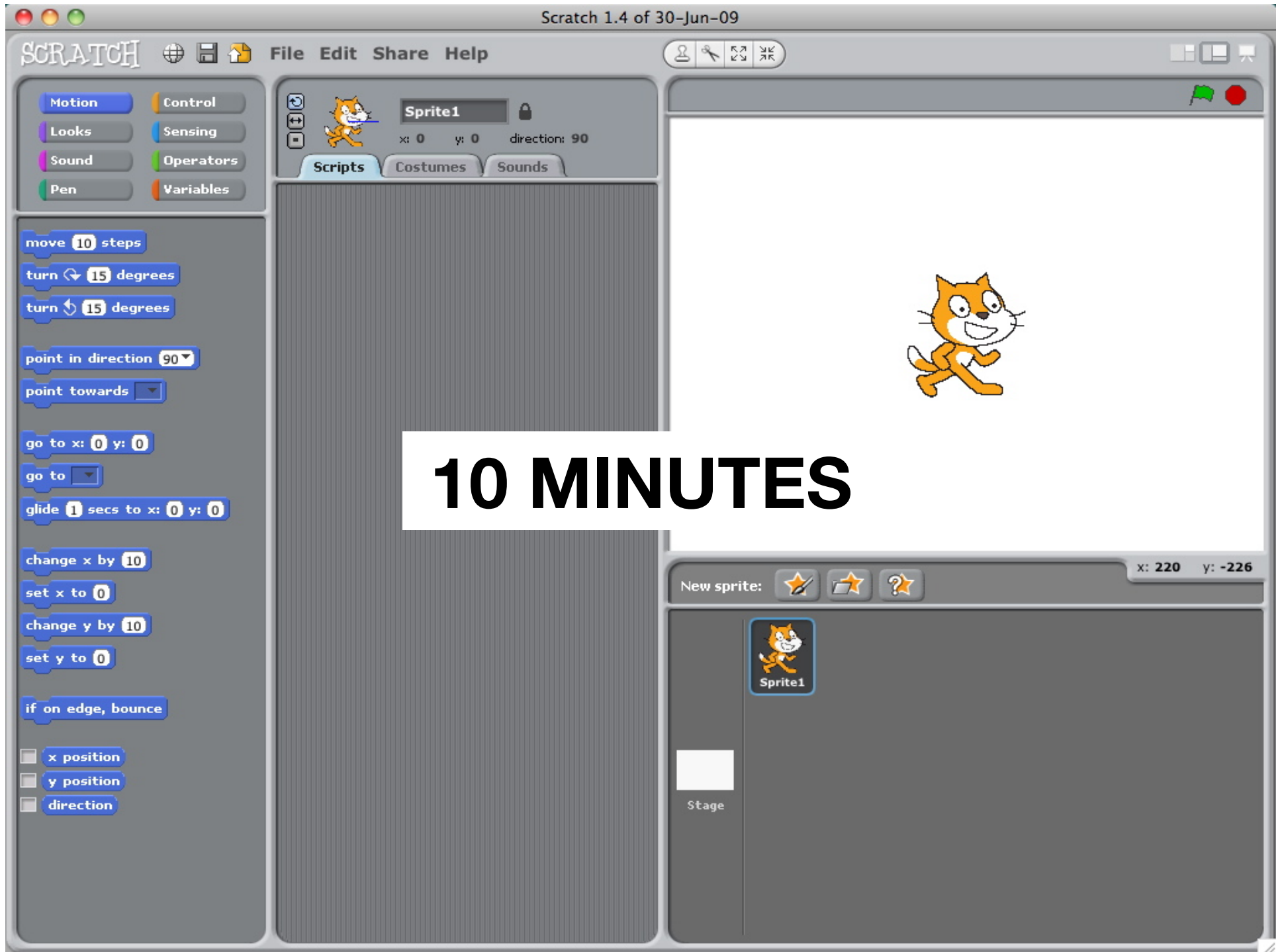
x: 220 y: -226



Sprite1



Stage



Exploring: Something surprising
Cultivating comfort with the tool

Exploring: Something surprising

Cultivating comfort with the tool

Establishing culture of...

exploration

fearlessness

student connectedness

Reflecting: Our discoveries

Reflecting: Our discoveries

Encouraging students to share their discoveries

Reflecting: Our discoveries

Encouraging students to share their discoveries

Did anyone figure out how to add sound?

Did anyone figure out how to change the background?

Did anyone figure out how to access the help screens?

:

Session #	Activities
1	Planning: What is creative computing?
	Planning: Defining computational design processes
	Exploring: Something surprising
	Reflecting: Our discoveries
2	Reflecting: Design notebook question
	Creating: About me
	Reflecting: My design process

Reflecting: Design notebook question

Reflecting: Design notebook question

What are three aspects of yourself that you could represent through images or sound?

Reflecting: Design notebook question

What are three aspects of yourself that you could represent through images or sound?

Framing the day's activities

Thinking about CT perspective of expressing

Creating: About me

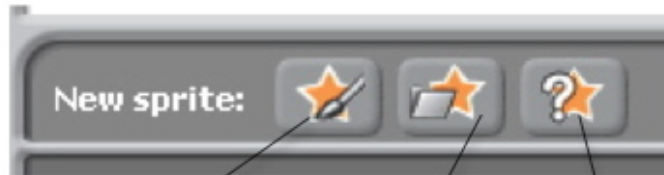
ABOUT ME



How can you combine interesting images and sounds to make an interactive collage about yourself?

STEP BY STEP...

1. Add a sprite



paint your
own sprite

choose a downloaded
or library sprite

get a surprise sprite

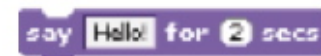
2. Make it interactive



make your sprite
interactive by
adding scripts that
have the sprite
respond to clicks,
key presses, and
more

3. Repeat!

BLOCKS TO PLAY WITH...



Reflecting: My design process

Reflecting: My design process

Asking 2-3 students to share their work

Reflecting: My design process

Asking 2-3 students to share their work

What was your inspiration?

How did you do that?

What did you get stuck on? How did you get unstuck?

What are you most proud of? Why?

What might you want to do next?

**How do we know
if we were successful?**

Success? Positive experiences
Diversity of creations
Desire to learn more

Strategies Be flexible with the plan
It's OK to not know everything

Thank You!

<http://www.surveymonkey.com/s/2011-09-webinar>

Next webinar: Wednesday, October 26, 2011 at 7pm

Exploring the Scratch Website

<http://scratched.media.mit.edu>

<http://scratched.eventbrite.com>