Welcome To SCRATCH From Scratch

Macul 2015

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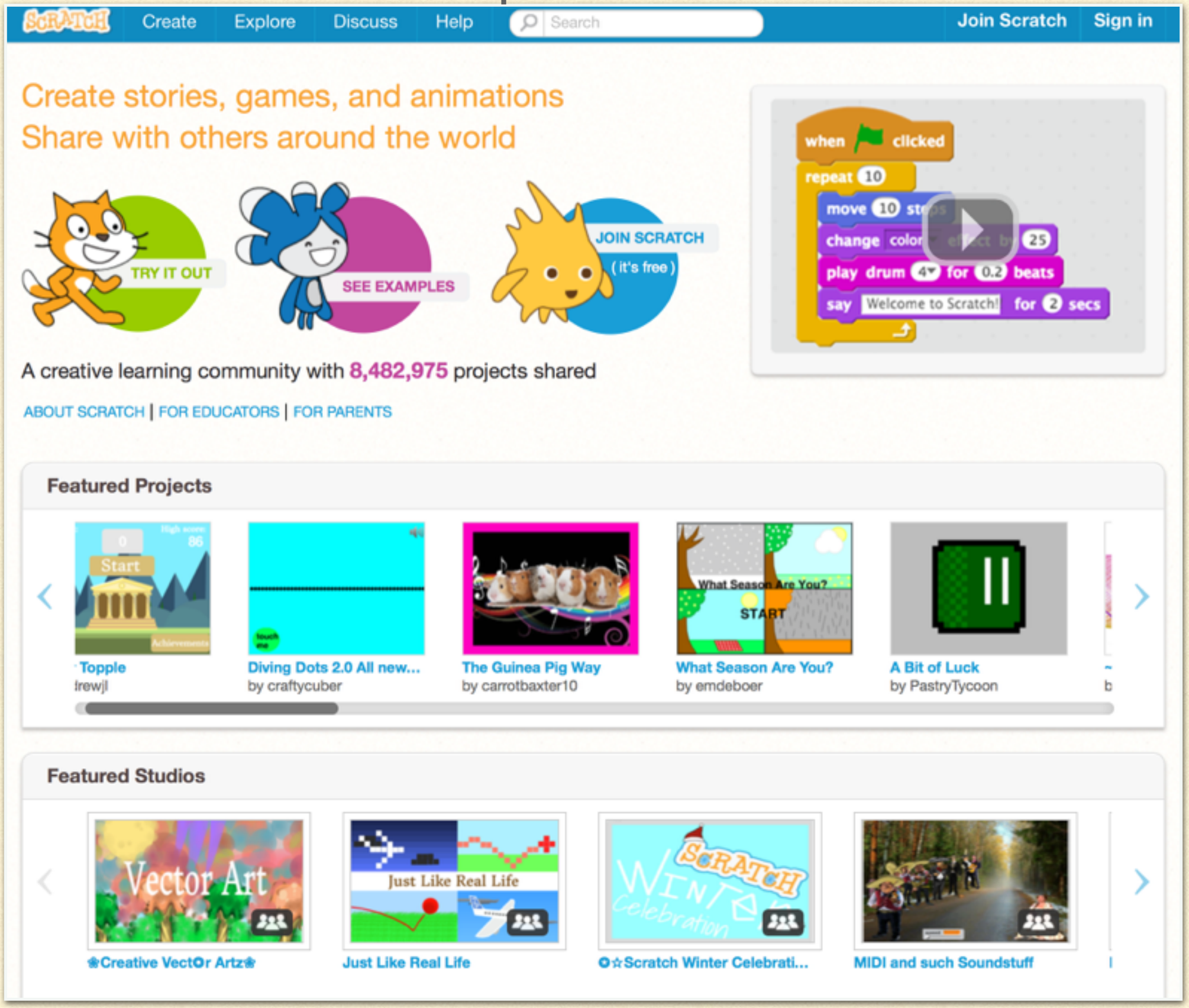
Introductions

MACUL
SIG CS

MIchigan
Computer
Science
Teachers
Association

A Chapter of the
Computer Science
Teachers Association

Go to http://scratch.mit.edu



In order to work offline (in case of network problems), scroll to the bottom of the page and click Offline Editor

About
About Scratch
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Scratch Family
ScratchEd
ScratchJr
Scratch Day
Scratch Conference
Code-to-Learn Foundation

English

Scratch is a project of the Lifelong Kindergarten Group at the MIT Media Lab

Scratch 2 Offline Editor

You can install the Scratch 2.0 editor to work on projects without an internet connection. This version will work on Mac, Windows, and some versions of Linux (32 bit).

Adobe AIR

If you don't already have it, download and install the latest Adobe AIR

Mac OS X - Download
Mac OS 10.5 & Older - Download
Windows - Download
Linux - Download

Scratch Offline Editor

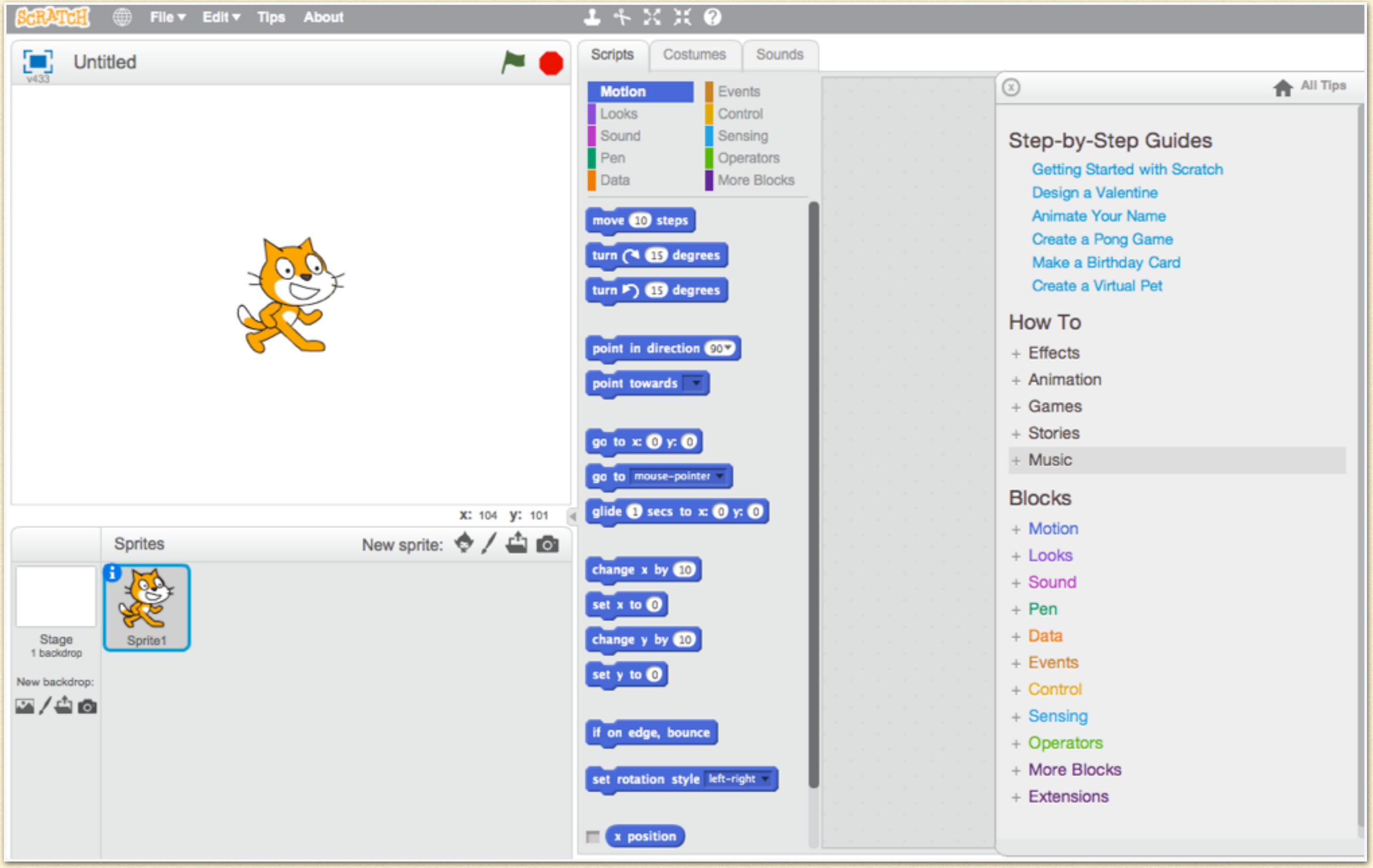
Next download and install the Scratch 2.0 Offline Editor

Mac OS X - Download
Mac OS 10.5 & Older - Download
Windows - Download
Linux - Download

Support Materials

Need some help getting started? Here are some helpful resources.

Starter Projects - Download
Getting Started Guide - Download
Scratch Cards - Download


File
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Sprites
New sprite:
Stage
1 backdrop
Sprite1
New backdrop:
Scripts
Costumes
Sounds
Motion
Looks
Sound
Pen
Data
Events
Control
Sensing
Operators
More Blocks
move 10 steps
turn 15 degrees
turn 15 degrees
point in direction 90
point towards
go to x: 0 y: 0
go to mouse-pointer
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
set rotation style left-right
x position
All Tips
Step-by-Step Guides
Getting Started with Scratch
Design a Valentine
Animate Your Name
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Make a Birthday Card
Create a Virtual Pet
How To
+ Effects
+ Animation
+ Games
+ Stories
+ Music
Blocks
+ Motion
+ Looks
+ Sound
+ Pen
+ Data
+ Events
+ Control
+ Sensing
+ Operators
+ More Blocks
+ Extensions

Scratch, from Scratch

Step-by-Step Guides

- Getting Started with Scratch
- Design a Valentine
- Animate Your Name
- Create a Pong Game
- Make a Birthday Card
- Create a Virtual Pet

How To

+ Effects
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Blocks

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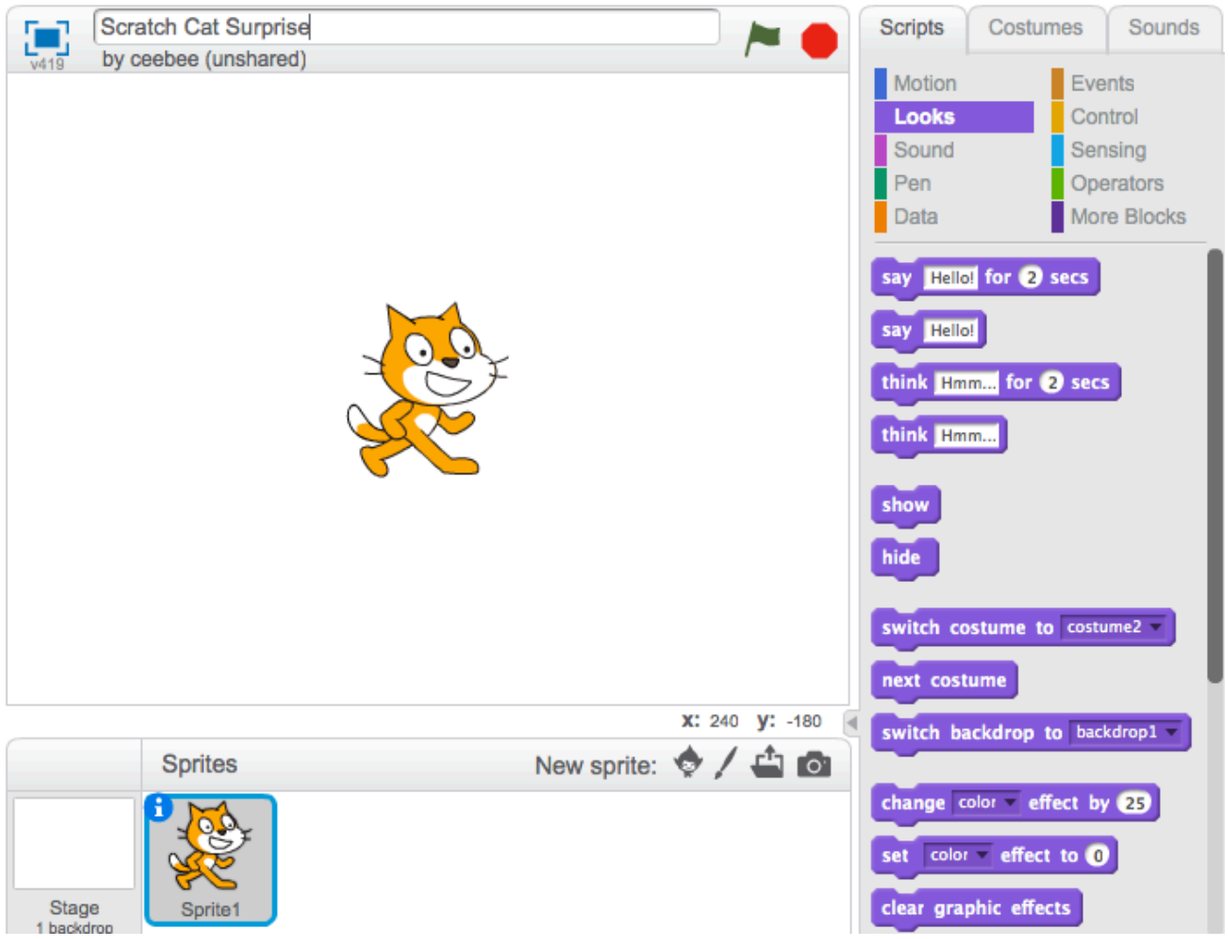
Student instructions for an intro exercise.

SCRATCH SURPRISE

CAN YOU MAKE THE SCRATCH CAT DO SOMETHING SURPRISING?

In this activity, you will create a new project with Scratch and explore different Scratch blocks to make the cat do something surprising! What will you create? ---------►



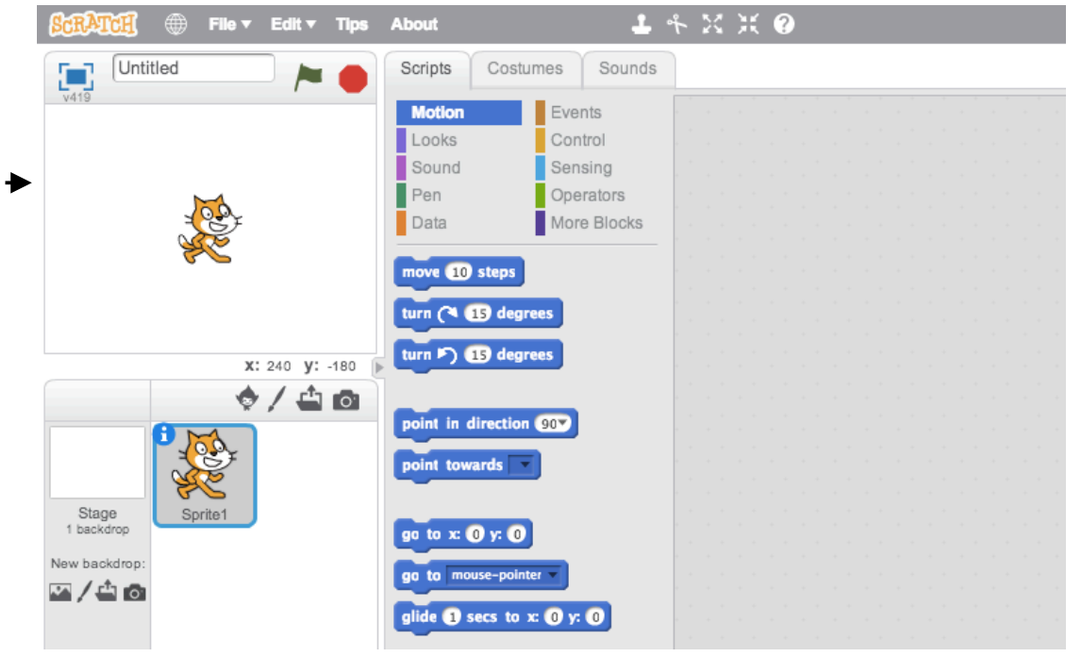
CreativeComputing20141015.pdf, p21a

START HERE

- ❑ Go to the Scratch website: http://scratch.mit.edu

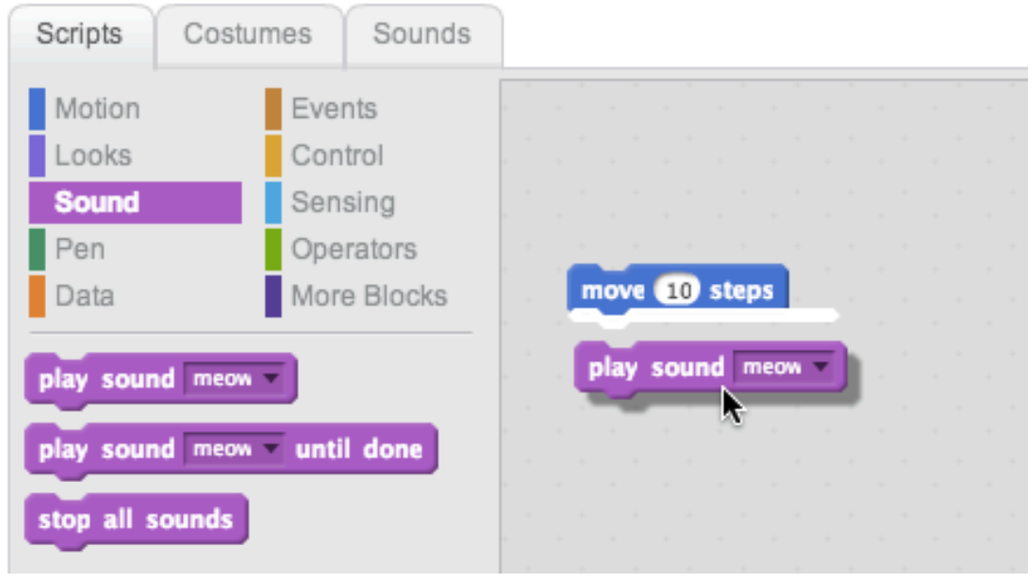
- ❑ Sign into your account.

- ❑ Click on the "Create" tab located at the top left of the browser to start a new project.



- ❑ Time to explore! Try clicking on different parts of the Scratch interface to see what happens.

- ❑ Play with different Scratch blocks! Drag and drop Scratch blocks into the scripting area. Experiment by clicking on each block to see what they do or try snapping blocks together.



CreativeComputing20141015.pdf, p21b

Teacher resources
CreativeComputing
20141015.pdf,
p20a

UNIT 0 ACTIVITY

SCRATCH SURPRISE

SUGGESTED TIME
15-30 MINUTES

OBJECTIVES

By completing this activity, students will:

+ engage in an exploratory, hands-on experience with Scratch

ACTIVITY DESCRIPTION

- ❑ Help students open the Scratch project editor by navigating to the Scratch website at http://scratch.mit.edu, signing in to their Scratch accounts, and then clicking on "Create" at the top of the page. Optionally, have the Scratch Surprise handout and Scratch Cards available to guide students during their explorations.
- ❑ Give students 10 minutes to explore the Scratch interface in an open-ended way. Prompt students with, "You have 10 minutes to make something surprising happen to the Scratch cat." Or, "Take 10 minutes to explore the interface fearlessly. What do you notice?" Encourage students to work together, ask each other for help, and share what they are figuring out.
- ❑ 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:
  - Did anyone figure out how to add sound?
  - Did anyone figure out how to change the background?
  - Did anyone figure out how to get help with blocks?

RESOURCES

- ❑ Scratch Surprise Handout
- ❑ Scratch Cards
  http://scratch.mit.edu/help/cards

REFLECTION PROMPTS

+ What did you figure out?
+ What do you want to know more about?

REVIEWING STUDENT WORK

+ Do students know how to initiate a new project?
+ Do students understand the basic mechanism of snapping Scratch blocks together?

NOTES

+ A major goal of this activity 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.
+ Make sure that your computers have the latest version of Flash to run Scratch: http://helpx.adobe.com/flash-player.html

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NOTES TO SELF

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- ❑ ----------
- ❑ ----------
- ❑ ----------
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Teacher resources
CreativeComputing20141015.pdf,
p20b, labeled p16

Next, another example from
Creative Computing.

UNIT 0 ACTIVITY

CRITIQUE GROUP

SUGGESTED TIME
15-30 MINUTES

OBJECTIVES

By completing this activity, students will:

+ divide into small critique groups in order to give and get feedback on design ideas and works-in-progress

ACTIVITY DESCRIPTION

- ❑ Introduce students to the idea of a critique group, a small group of designers who share ideas and projects-in-progress with one another in order to get feedback and suggestions for further development.
- ❑ Optionally, have the Critique Group handout available to guide students in giving feedback.
- ❑ Divide students in smaller groups of 3-4 people. In these critique groups, ask students to take turns sharing their ideas, drafts, or prototypes, for example, Scratch Surprise projects.
- ❑ Let students gather feedback by having their critique group members respond to the Red, Yellow, Green reflection prompts or using the Critique Group handout. Encourage students to record other notes, feedback, and suggestions in their design journals.

RESOURCES

- ❑ Critique Group handout

REFLECTION PROMPTS

+ RED: What is something that doesn't work or could be improved?
+ YELLOW: What is something that is confusing or could be done differently?
+ GREEN: What is something that works well or you really like about the project?

REVIEWING STUDENT WORK

+ Did all students have a chance to share their work and get feedback?

NOTES

+ It can be valuable to have a dedicated group of peers to give you encouragement and feedback on your design iterations. Provide opportunities for students to continue meeting with their critique groups during Units 1-6.

NOTES TO SELF

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- ❑ ----------
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- ❑ ----------

Teacher resources
CreativeComputing20141015.pdf,
p24b, labeled p20

CRITIQUE GROUP

FEEDBACK FOR: _____

PROJECT TITLE: _____

FEEDBACK BY	[RED] What is something that doesn't work or could be improved?	[YELLOW] What is something that is confusing or could be done differently?	[GREEN] What is something that works well or you really like about the project?

FEEDBACK BY	[RED] What is something that doesn't work or could be improved?	[YELLOW] What is something that is confusing or could be done differently?	[GREEN] What is something that works well or you really like about the project?

PARTS OF THE PROJECT THAT MIGHT BE HELPFUL TO THINK ABOUT:

+ Clarity: Did you understand what the project is supposed to do?
+ Features: What features does the project have? Does the project work as expected?
+ Appeal: How engaging is the project? Is it interactive, original, sophisticated, funny, or interesting? How did you feel as you interacted with it?

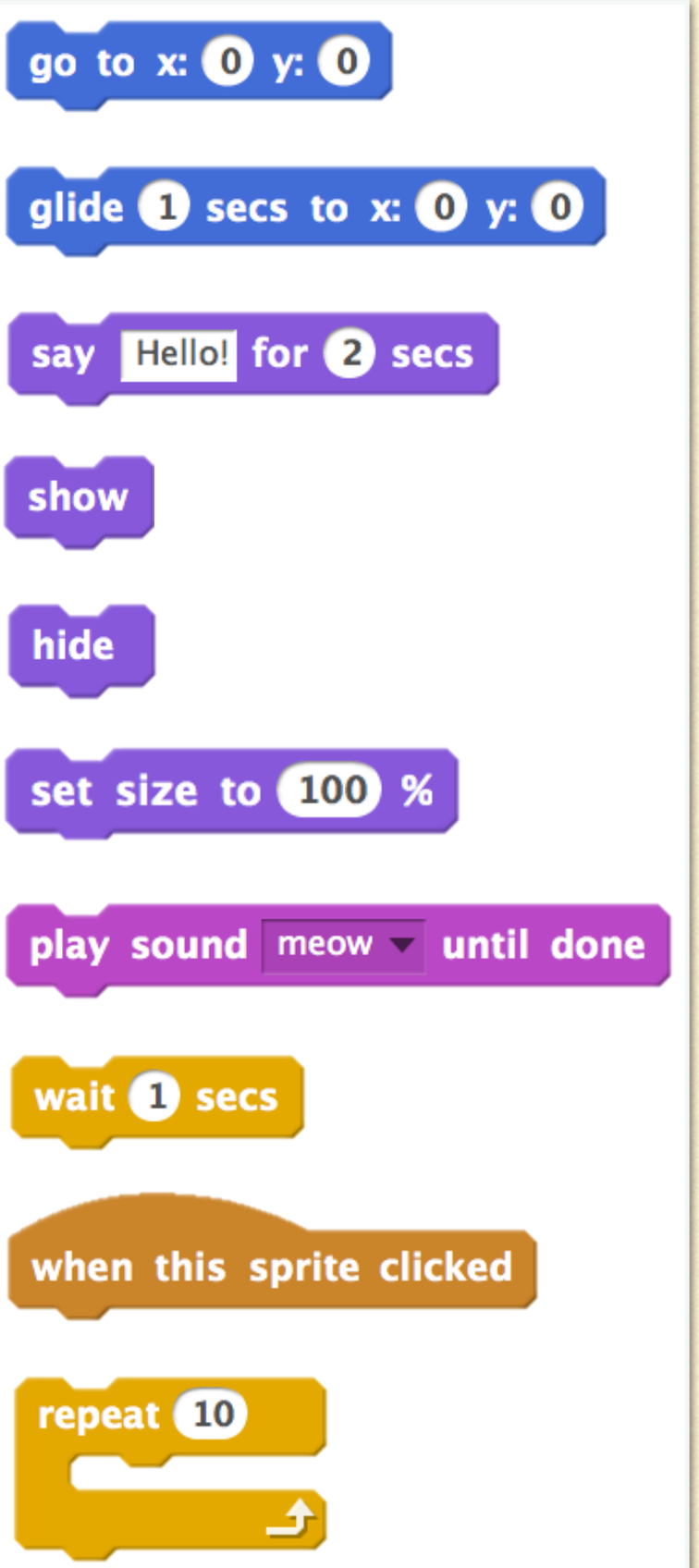
10 BLOCKS

WHAT CAN YOU CREATE WITH ONLY 10 SCRATCH BLOCKS?

Create a project using only these 10 blocks. Use them once, twice, or multiple times, but use each block at least once.

START HERE

- ❑ Test ideas by experimenting with each block.
- ❑ Mix and match blocks in various ways.
- ❑ Repeat!



Teacher resources
CreativeComputing
20141015.pdf, p35

FEELING STUCK?

THAT'S OKAY! TRY THESE THINGS...

- ❑ Test ideas by trying out different block combinations. Mix and match blocks until you find something that interests you!
- ❑ Try brainstorming ideas with a neighbor!
- ❑ Explore other projects to see what others are doing in Scratch. This can be a great way to find inspiration!

All Tips

Step-by-Step Guides

- Getting Started with Scratch
- Design a Valentine
- Animate Your Name
- Create a Pong Game
- Make a Birthday Card
- Create a Virtual Pet

How To

- + Effects
- + Animation
- + Games
- + Stories
- + Music

All Tips

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- Animate Your Name
- Create a Pong Game
- Make a Birthday Card
- Create a Virtual Pet or Create a Virtual You

How To

- + Effects
- + Animation
- + Games
- + Stories
- + Music

Recipes

Recipe for ArrowMoves.sb2

Other Programming

- How Scratch compares to other programming languages

SCRATCH jr

About Learn Teach Donate

ScratchJr is now available as a free iPad app! Download it from the Apple App Store.

ScratchJr

Coding for young children

Coding is the new literacy! With ScratchJr, young children (ages 5-7) can program their own interactive stories and games. In

Media Computation Teachers Website

Media Computation (nicknamed "MediaComp") is a contextualized approach to introducing computing using a ubiquitous theme of manipulating media. The critical characteristic of MediaComp is that students create expressive media by manipulating computational materials (like arrays and linked lists) at a lower-level of abstraction. Students manipulate images by changing pixels, create sounds by iterating over samples, render linked lists into music, and create artifacts like collages, music, and digital video special effects. In so doing, the students learn computation. Examples of CS1 activities and CS2 activities are available.

Here's a TEDxGeorgiaTech that Mark did that shows MediaComp in action:

www.MediaComputation.org

Other Programming Languages

- robotics languages
- Python
- Java
- Perl
- C++
- And many more

Questions
And
Exploration

Another Scratch session

Thursday 1:00 to 3:00 PM

Room 252A

Introduction to Programming With Scratch *Victor Horman, Professor, Calvin College*

The Scratch programming environment has long been recognized as an effective first tool to learn computer programming. The environment is so easy to use that students as young as second grade can learn to program with Scratch. In this workshop, participants will be introduced to Scratch and will learn how to build their own simple interactive games, computer art, and physics demonstrations, appropriate for use 4-12 classrooms. Note: No previous knowledge of computer programming is required.