WELCOME

IGNITE TALKS

Patty Hicks

Girls as Creators

By Patty Hicks
Computer Teacher
Gregory Middle School
Indian Prairie School District #204
Naperville, Illinois

6th and 7th grade computer classes are required, so the classes are gender-balanced.

8th grade is an elective and last year only 21% of my students were girls.

The girls prefer the “Mixed Media” class that focuses on photography and advertising.

It's even worse at the high school.

Last year only 14% of the AP Computer Science students were girls.

And that's the only computer programming/ computer science class offered.

Budget cuts led to the elimination of the introductory class.

We added a computer programming unit to both the 6th and 7th grade computer curriculums for the 2011-2012 classes.

This would ensure that every student has the opportunity for computational thinking and problem-solving using a programming language.

Before that only 7% of the school population had any programming experience before entering high school.

I asked my students if they were excited about starting the computer programming unit.

All of the boys thought it sounded fun.

Most of the girls thought it would be boring.

Only the girls who had a parent or family member in the field were excited about programming.

Happily, 90% of the girls really enjoyed computer programming.

And that surprised them.

I asked my 7th grade students to describe a computer programmer.

"He's smart, and has a fun job."

"He's socially awkward."

I visited one of the AP Computer Science classes and spoke with the students. There were 3 girls and 21 boys in class.

One girl plans on studying computer science or some form of computer technology in college. Her brother is an electrical engineering major and her dad a computer scientist.

Half of the boys plan on majoring in engineering or computer science in college.

In 2011 “boys dominated” the AP Computer Science class with 80% of the enrollment.

It was 84% boys last year in District 204.

Only 2% of the total high school population took AP Computer Science last year.

Girls in science: Gender gaps still persist in STEM subjects
Education Week Erik W. Robelen, June 27, 2012

That's around 200 students a year out of a total enrollment of 9089 across three high schools.

And 1 girl for every 6 boys.

"Computing has one of the worst gender representations of any STEM discipline. When you do find computing in high school, and it is rigorous, girls are very seldom represented in the classroom.“

Lucinda M. Sanders, the chief executive officer and co-founder of the National Center for Women & Information Technology

How do we change the stereotypes?

How do we encourage and support students in science, technology, engineering and math?

How do we encourage girls to become creators?

Require it.

- Assign them projects that require creativity. Don't tell them what to do or how to do it.
- Give them ownership of the process from start to finish.
- Provide them with the tools to create audio, video, images and anything else they need.

Encourage risk-taking.

- Push your kids to try something new and different.
- Let them experiment with the language and their ideas.
- Let them fail. Let them think through the logical errors they will encounter.

Accept the differences.

- Boys and girls are different. Encourage and support their individuality by allowing them to work and think in their own ways.

- But give them opportunities to talk to each other and learn from each other.

- They will learn more and create something even more amazing.

Be Passionate.

- Don’t fake it. If you don’t love programming don’t lie to your students.

- But do learn to love it. It is fun and engaging and exasperating and ultimately very rewarding.

Join & Share.

- Join a professional network to learn and share. ScratchED is great for this.
- Reach out to other teachers in your district.
- Share the work product online or in an evening program. We have a STEM night and computer programming is a part of it.

Collaborate.

- I reached out to the high school AP Computer Science teachers and found two kindred spirits.
- They are going to help build support for computer programming at the middle level by teaching the teachers.
- We are also going to work together to find a way to offer more CS classes at the high school.

Invite Role Models.

- Invite women in STEM fields to your classroom.
- See if parents would be willing to come and talk to the students about their careers.
- Check with the local colleges for students or professors to help the students with problems.

Joanne Barrett

Getting Computer Science into the Curriculum

Joanne Barrett

Independent K-12 co-ed school in Sarasota, Florida

Florida

A Chapter OF THE
Computer Science
Teachers Association

President, Florida Chapter

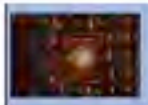
Independent K-12 co-ed school in Sarasota, Florida

Stone Ridge
SCHOOL OF THE SACRED HEART

WITI women in technology international
build. empower. inspire.

national center for women & INFORMATION TECHNOLOGY

ANITA BORG INSTITUTE
FOR WOMEN AND TECHNOLOGY



Tapestry Workshop Series

Attracting and engaging diverse high school students to computing

2012 Offerings

June 26 - 28
University of Virginia
Charlottesville, VA
Jim Cohoon and Joanne Cohoon

July 11 - 13
University of Pennsylvania
Philadelphia, PA
Rita Powell

July 18 - 20
North Carolina State University
Raleigh, NC
David Wright and Mladen Vouk

July 23 - 25
University of Nebraska
Lincoln, NE
Leen-Kiat Soh and Charles Riedesel

August 1 - 3
Michigan State University and Oakland University
East Lansing, MI
Laura Dillon and Fatma Mili

August 6 - 8
College of Saint Scholastica
Duluth, MN
Jennifer Rosato and Chery Takkunen

If you are interested in

- Attracting more and diverse students into your high school Computer Science classes
- Influencing the perceptions of students, parents, guidance counselors, administrators, and other teachers on the importance of your courses and the opportunities they provide
- Engaging your students in the exciting and rewarding field of computing

You are invited to

- Apply to attend one of six summer workshops on the better attraction and engagement of female students to computer science.

Thanks to the National Science Foundation, NCWIT, CSTA, and university sponsors, the workshops will be tuition-free with lodging and meals provided.

Attendees who complete an entire workshop will be awarded honorariums of $1,000 to assist with time and travel costs, and to show appreciation for assessing the workshop program and activities.

What is a Tapestry Workshop?

The goals of the workshop are to share strategies, research-based practices, and field-tested good ideas for teaching computer science in a way that reaches all students regardless of sex or ethnicity.

Workshop participants will

- Explore activities for gaining the interest of all students
- Interact with national experts on teaching and diversity practices
- Meet university faculty desiring to serve as ambassadors to their schools
- Form a network of like-minded people for ongoing discussion and development.

Application

Interested in applying, applications are being taken now.

Questions

Questions about individual workshops should be directed to workshop contacts indicated to the left.

If you have questions about the Tapestry Workshops in general please contact Joanne McGrath Cohoon.

Articulation

DOE Home

Printer Friendly

Articulation Home

2012-2013 Course Code Directory Information

2011-2012 Course Code Directory Information

2010-2011 Course Code Directory Information

2009-2010 Course Code Directory Information

2008-2009 Course Code Directory Information

Course Code Directory (CCD) and Instructional Personnel Assignments

(State Board of Education Rule 6A-1.09441)

What is the Course Code Directory (CCD)?

The Course Code Directory (CCD) is a comprehensive information resource consisting of a narrative section that provides general and in-depth information on applicable laws and State Board of Education rules; explanations of requirements and policies pertaining to multiple topics, and details on the K-12 course numbering system. **All programs and courses funded through the Florida Education Finance Program (FEFP) and courses or programs for which students may earn credit toward high school graduation are included in this document.** The CCD assists counselors, students and parents in schedule planning, provides course specific information including course level and length, and lists appropriate teacher certification levels for courses. It allows schools, districts, and the state to identify courses by specific course number, thereby providing analogous information across various levels of administration and consistency in reporting.

ANITA BORG INSTITUTE
FOR WOMEN AND TECHNOLOGY

OBSTACLES AND SOLUTIONS FOR UNDERREPRESENTED MINORITIES IN TECHNOLOGY

Previous research on barriers faced by underrepresented minorities in technology

Unequal access to technology and curriculum from early on creates ongoing disadvantage. Starting at the K-12 level, under represented students are more likely to be in school districts lacking the resources for a rigorous computer science curriculum.

CAROLINE SIMARD, PH.D.

The majority of Girls Inc. centers are located in low–income areas and provide a weekly average of 30 hours of after-school, weekend and summer activities.

Girls Only

Testimonials | Programs | Calendar | What's New | Photo Gallery | Q & A

Q & A

girls inc.®

Inspiring all girls to be strong, smart, and bold℠

girls inc. | inspiring all girls to be strong, smart and bold!

941-366-6646
Contact Girls Inc. of Sarasota County Today!

About Us | Families | Programs | Donate Now | News | Get Involved | Calendar | Girls On

ABOUT US

PHILOSOPHY & MISSION

Girls Incorporated of Sarasota County is a local affiliate of a national nonprofit youth organization dedicated to inspiring all girls to be Strong, Smart, and Bold. Girls Inc. fulfills its mission of empowering girls aged six and up to be self-confident, responsible and well-rounded individuals by delivering research-based, age-appropriate, after-school and summer educational and sports programs designed specifically for girls at the Girls Incorporated National Resource Center.

The primary areas of Girls Inc. programming focus on literacy, math and science, career and life planning, health and sexuality, leadership and community action, sports and adventure, self-reliance and life skills, and culture and heritage. Girls Inc. programs are designed to serve all girls regardless of a girl's socio-economic, ethnic or religious background. Appreciation of diversity and acceptance of others is at the core of the Girls Inc. philosophy. The organization prides itself in offering girls multi-cultural expenences in a safe and harmonious environment. Transportation is provided to girls from the twenty-plus schools to the Girls Inc. facility and sliding-scale scholarships are available for the after-school and summer programs.

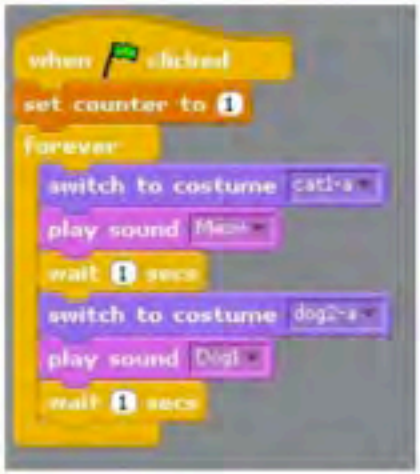
[PPT] Creating a Simple **Game** in **Scratch**
coweb.cc.gatech.edu/ice-gt/uploads/446/BabyCatch-6-4-2009.ppt
File Format: Microsoft Powerpoint - Quick View
Jun 4, 2009 – Create a Simple **Game** in **Scratch**. **Barb Ericson**. Georgia Tech. June 2009. Goals. Learn about. event handling; simple sequential execution ...

Scratch Activities
Version 1.0

by
Richard Wiktorowicz
Moorefield Girls High

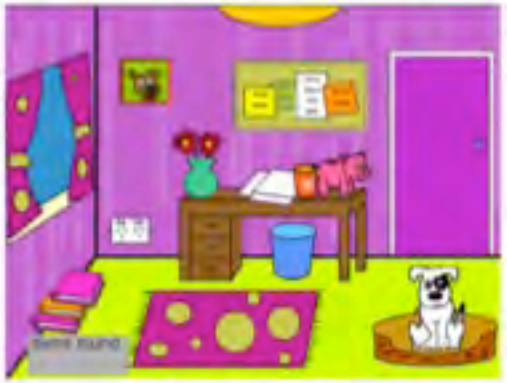
richard_wiktorowicz@yahoo.com.au

5. This script alternates costumes and sounds. Modify so that your script in 4 (above) also changes costume as well as sound.



6. Here is a script with two Sprites one that says "Marco" the other one "Polo". Modify it to a cat with a "meow" and a dog with a "bark" counting.

MAKE AN ESCAPE THE ROOM GAME IN SCRATCH



In this tutorial, you will learn how to create an *Escape the Room* game in *Scratch*. An *Escape the Room* game is one where the player finds themselves locked in a mysterious room. They must then explore and the room to locate objects that will enable them to escape the room.

The *Escape the Room* game genre was made popular by the Japanese game *Crimson Room* that was released on the internet in 2004. This game is available on the internet and can be quite challenging to play.

This tutorial will show you how to create a simplified version of this type of game. You will create a collection of objects that can be moved throughout the room and will hide objects in different locations within the room. Once you have collected the three objects, you will be able to escape the room through the door. On completion of this tutorial, you will have learnt how to:

- use the *Scratch* drawing tools
- create Sprites
- use some of the *Scratch* scripting commands
- use variables in *Scratch*
- create multiple scenes by giving the stage multiple backgrounds.

Whilst the game we will build is quite simple, once you have developed these skills, you'll be able to extend the game or create other games with more complexity. You can also use these skills to create adventure games with multiple rooms and locations. You could also enhance your game by building in an interesting narrative, adding sound or using more intricate or detailed graphics. An example of the game you will create is located on the Scratch website at http://scratch.mit.edu/projects/ellieelectrons/1198599.

http://scratched.media.mit.edu/sites/default/files/pdf-escape-the-room-scratch-draggable-using-lock-button.pdf


INSPIRING ALL GIRLS


Y
(X:0,Y:180)
100
(X:-240,Y:0)
(X:0,Y:0)
(X:240,Y:0)
-200
-100
100
200
X
-100
(X:0,Y:-180)


File Edit Share Help
Control
Sensing
Operators
Variables
Rainbow
Scripts
Costumes
Sounds
move 10 steps
move -10 steps
switch to costume gobo2
switch to costume gobo3
switch to costume gobo4
switch to costume gobo5
switch to costume gobo6
mayaperez
score 22
lives 5
New sprite:
Stage
line (Scripts: 0)


Sprite2
x: -152 y: 91 direction: 90
Costumes
Sounds
abbyqwertyuiopasdfghjklzxcvvvvvvbbbbbnnnnnnn...
New sprite:
x: -46 y: -155
Sprite1
Sprite2
Sprite3
Sprite4
Sprite5
Sprite6
Sprite7
Stage

techland.time.com

ORIGINAL PAGE

Can We Fix Computer Science Education in America?

by KEITH WAGSTAFF • JULY 16, 2012

READ LATER

http://techland.time.com/2012/07/16/can-we-fix-computer-science-education-in-america/

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Explore Resources

Found 437 Resources

K-8 Computer Science: Building a Solid Foundation

Contributed by Patrice Gans, July 19, 2012

It provides a review of current thought on K–8 CS education, explores how CS topics and concepts can impact learning the K–8 classroom, and offers practical strategies and resources.

Content Types: Reference Guide
Education Level: Elementary School
Curricular Areas: Computer Science

1 Comment 2 Bookmarks

Intermediate Level Loops and Event Recognition

Contributed by K Rusniak, July 17, 2012

Fun experimentation with loops and event recognition to control and manipulate a character. Good for kids of all ages over seve

Search Resources

Education Level

Preschool and Kindergarten (208)
Elementary School (314)
Middle School (278)
High School (254)
College and University (266)
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Tool (33)
Tutorial (106)

GIRLS!

Conclusion:

Volunteering with Scratch - Turns out to be a great opportunity to bring computer science education to the underrepresented populations!

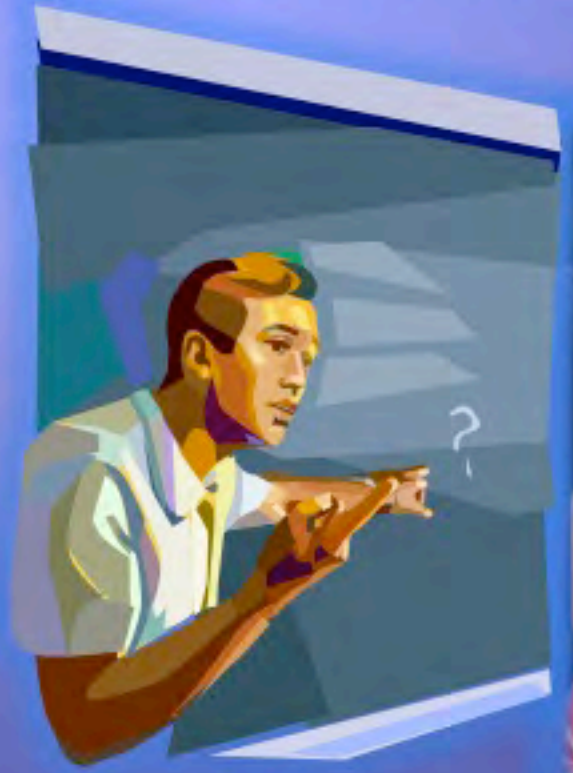
Ryan Evans

WHY DO I HAVE TO LEARN THAT???

SCRATCHING
TO MAKE LEARNING RELEVANT

Ryan F. Evans
Technology Teacher
Wanaque Borough Public Schools
revans@wanaque.k12.nj.us

Why Do I Have to Learn That???



Relevant

- Definition
  - bearing upon or connected with the matter in hand; pertinent:
- Synonyms
  - applicable, germane, apposite, appropriate, suitable, fitting.
    - Source: Dictionary.com

Create Connections

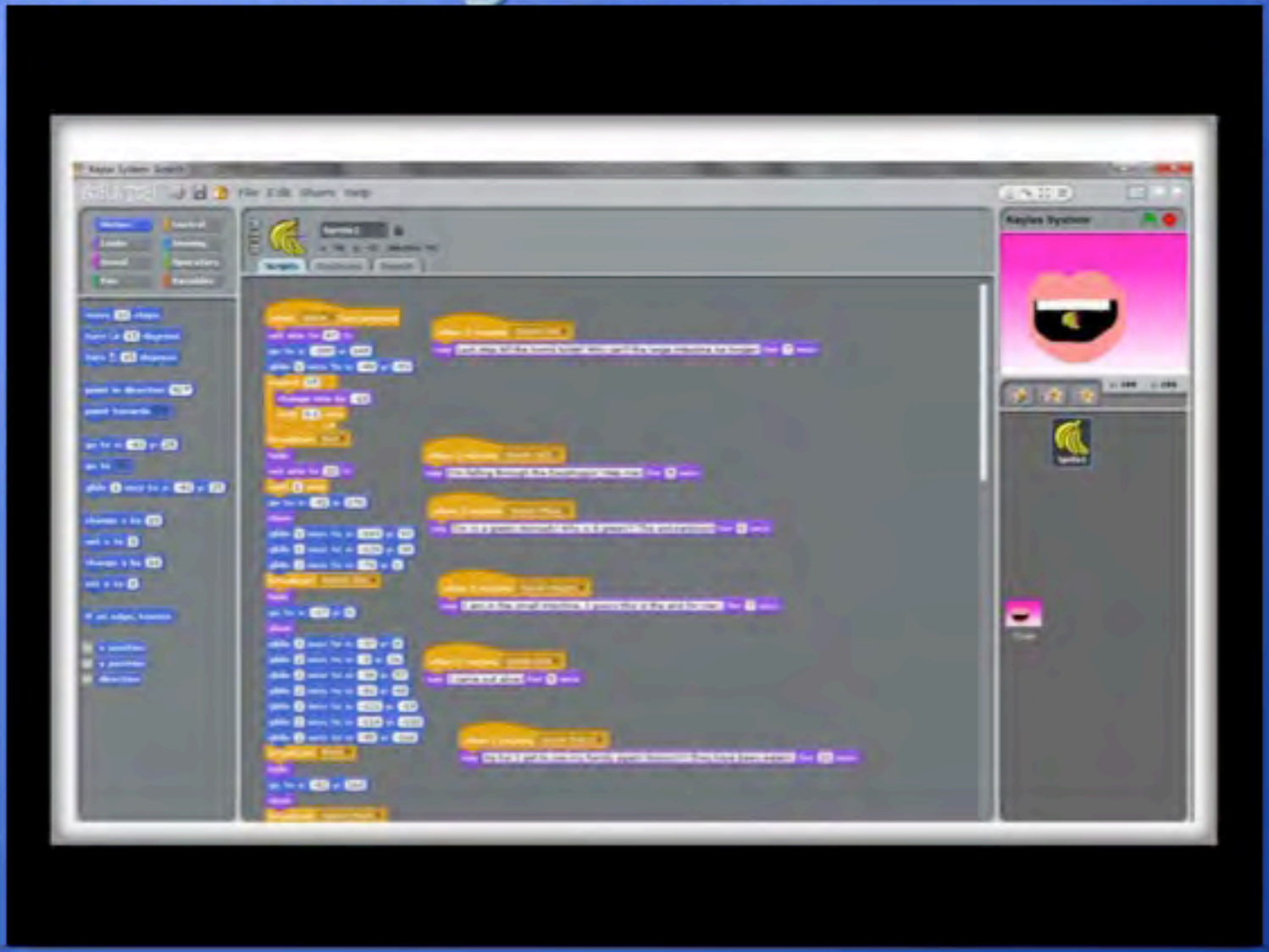
What	Why
Applicable: 	Projects can be integrated into all subject areas and applied to real world issues.
Germane: 	Projects created can closely relate to children's interest, subject area lessons, and personal life experiences.
Appropriate: 	Created for children from the elementary – high school ages; however used by people younger & older.

Connected With:

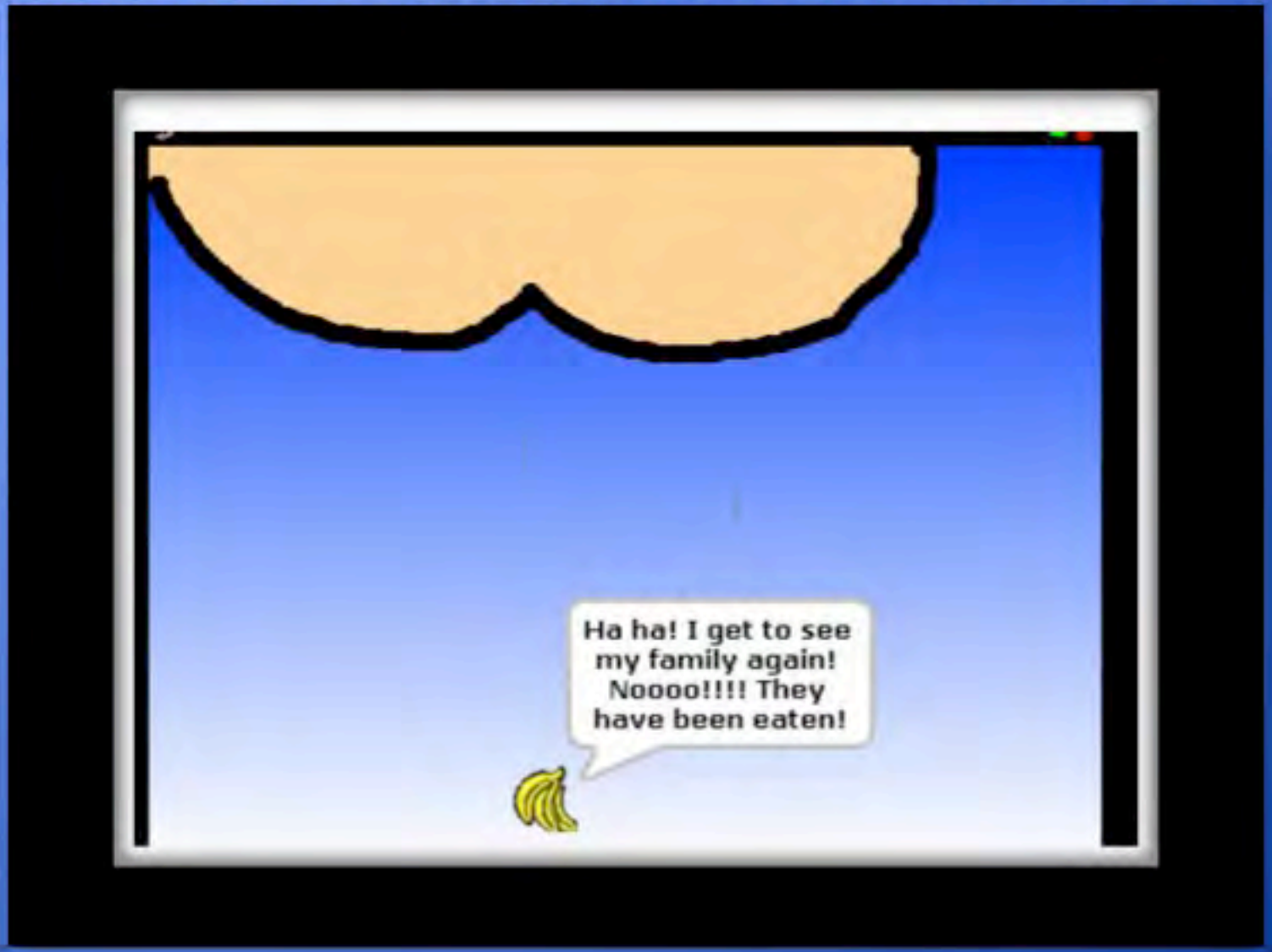
Grade	Description / Connection
4 	Study of the digestive system
5 	Study of the mission of the Space Shuttle Challenger (Halley's Comet)
7 	Creation of a Public Service Announcement along with online discussions

A Digestion Connection – Grade 4

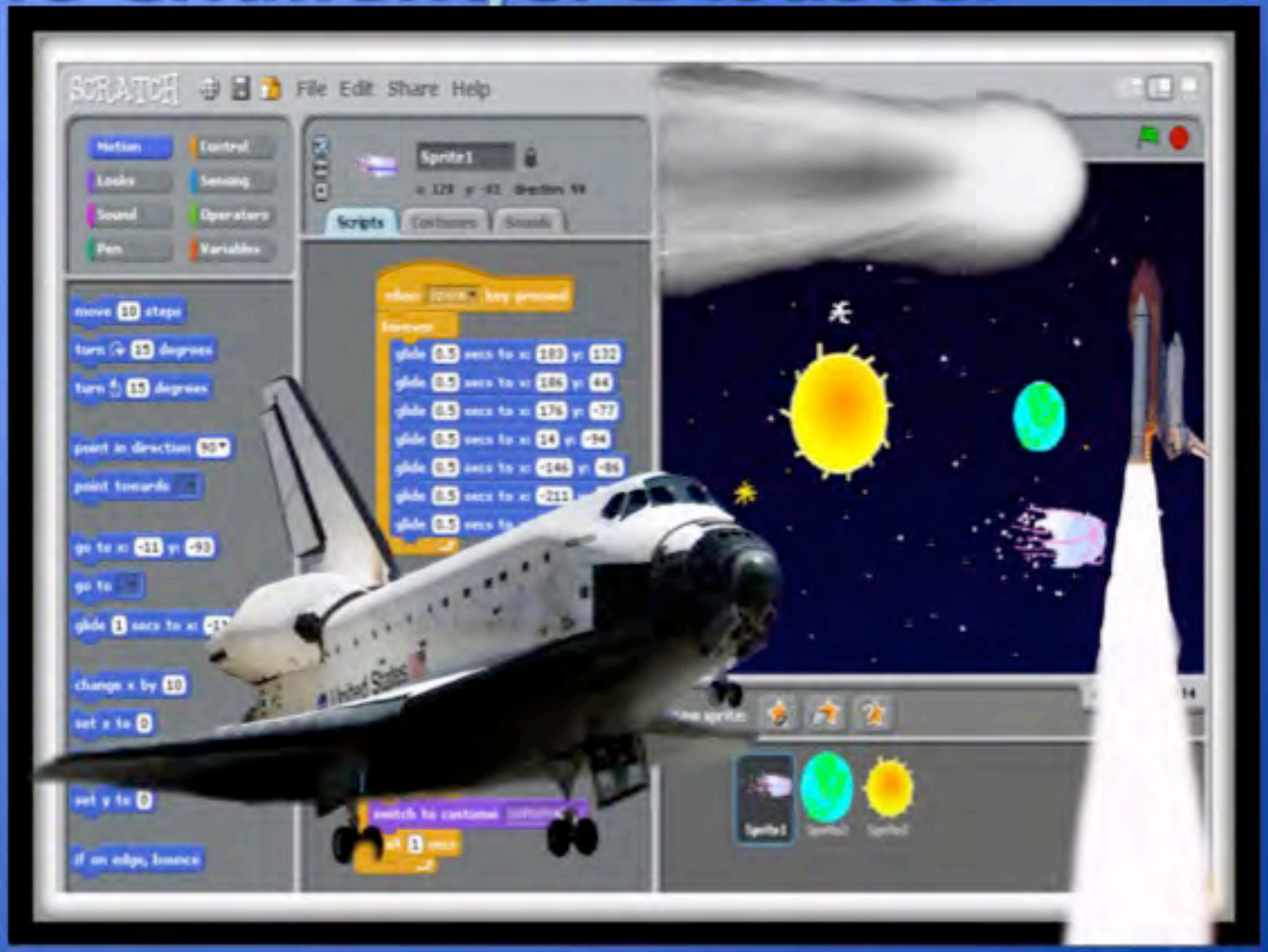
More Than Digestion



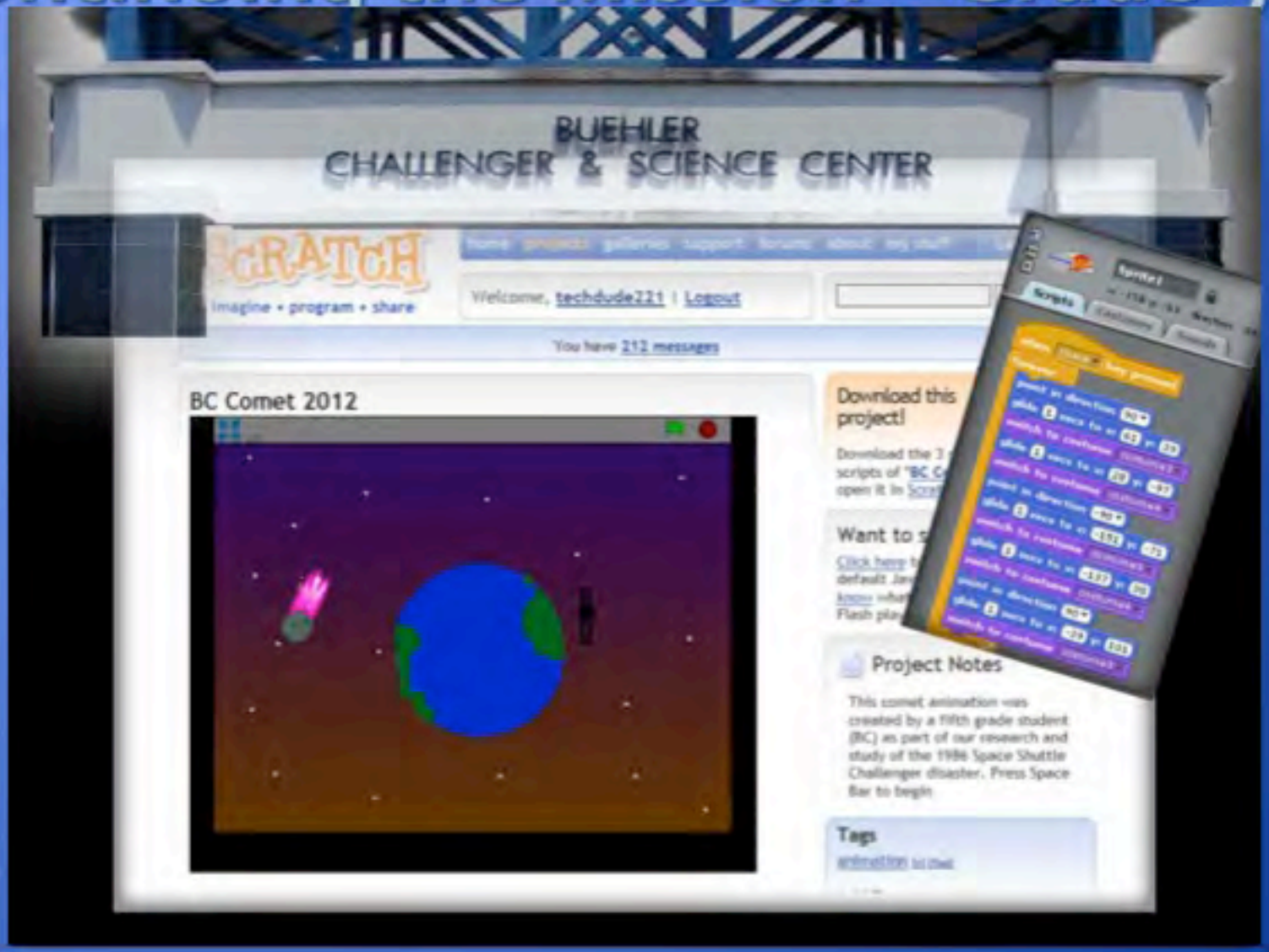
What Goes In…Must Come Out



The Challenger Disaster

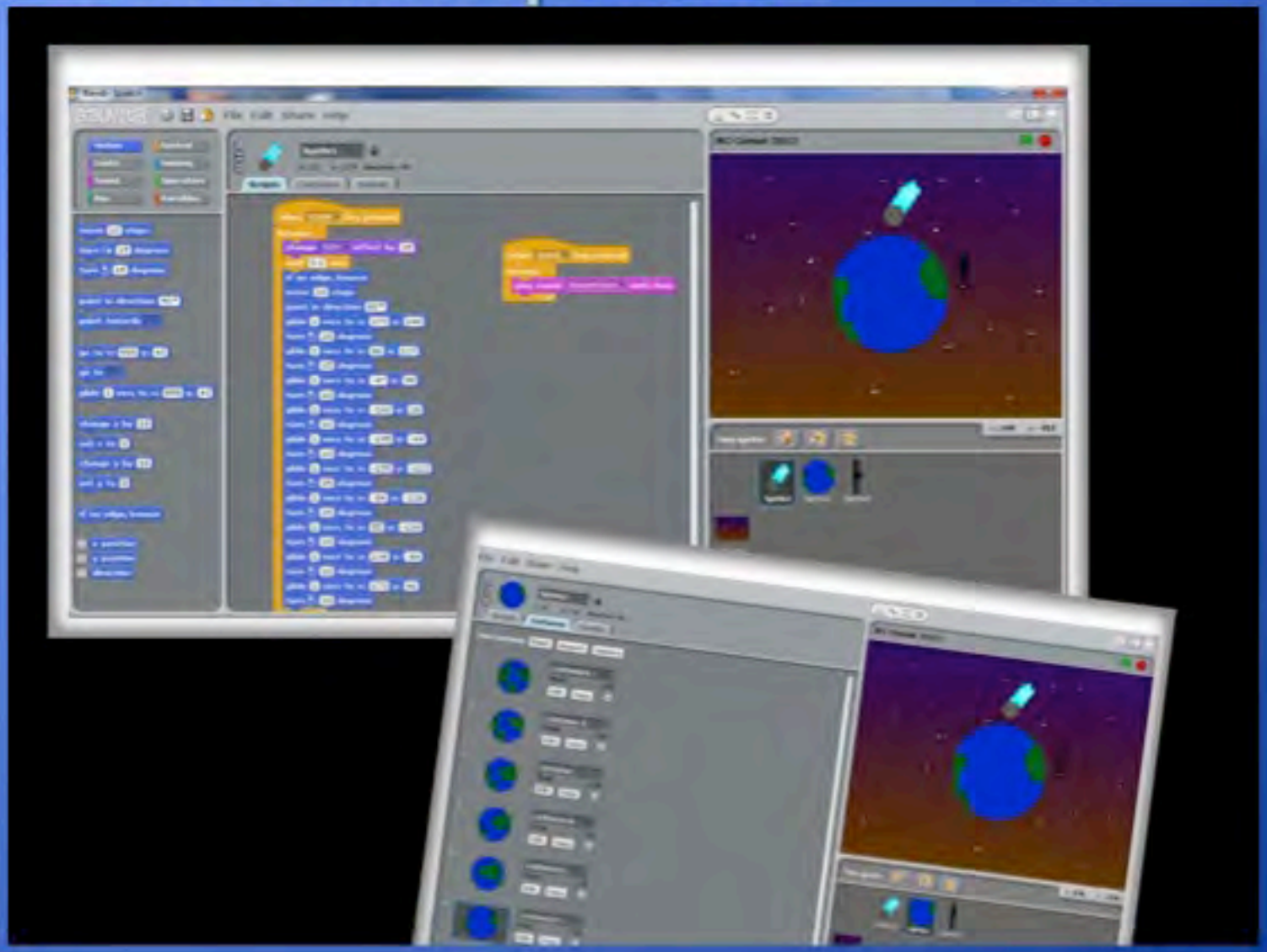


Continuing the Mission – Grade 5



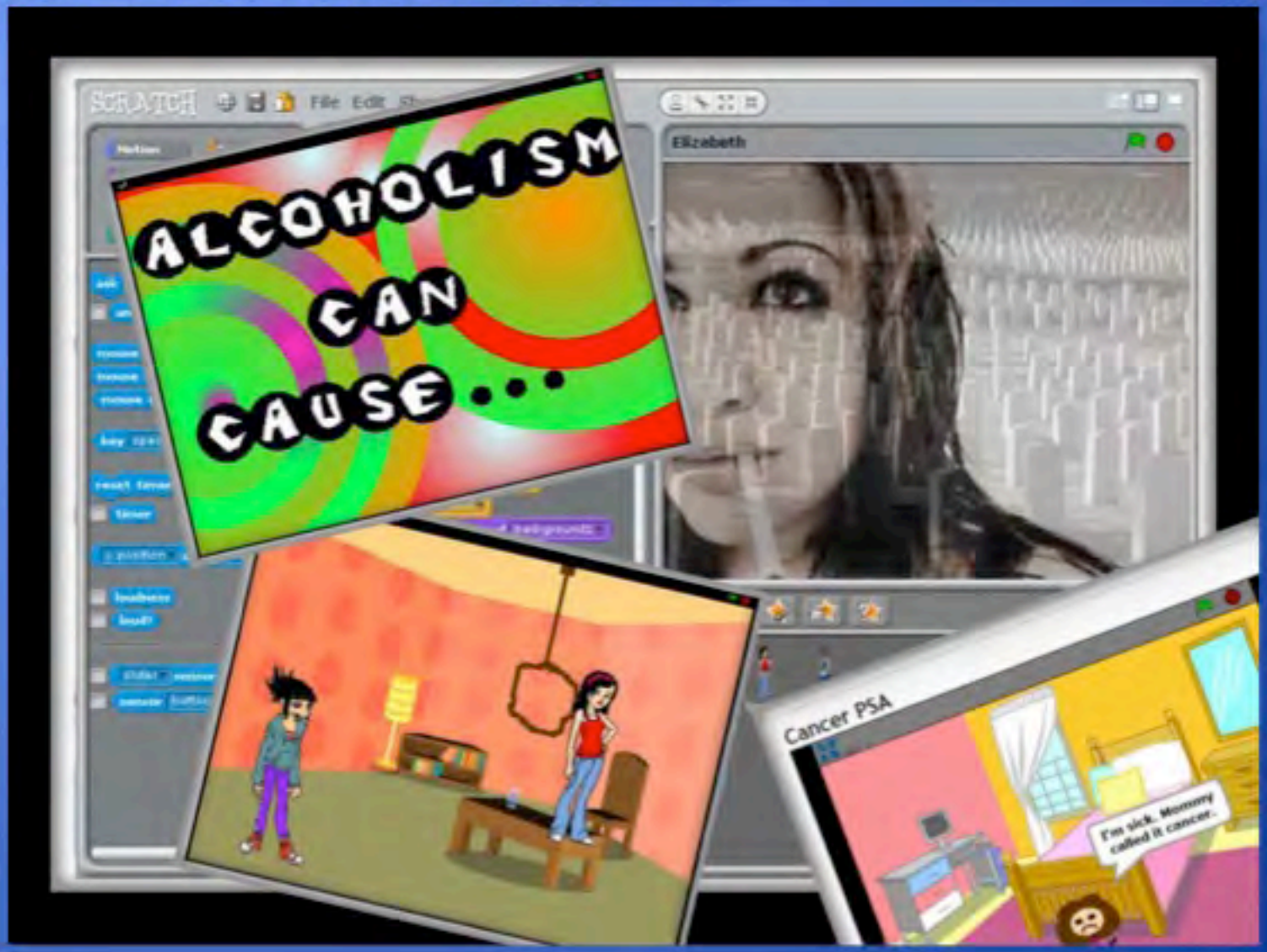
Connecting with Space & More

Rendezvous with Comet Halley: Mission Accomplished



Scratch PSA – Grade 7

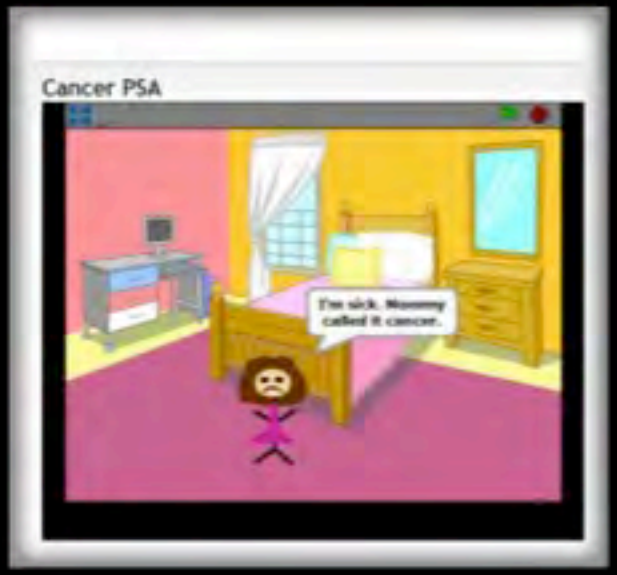
Real World Issues

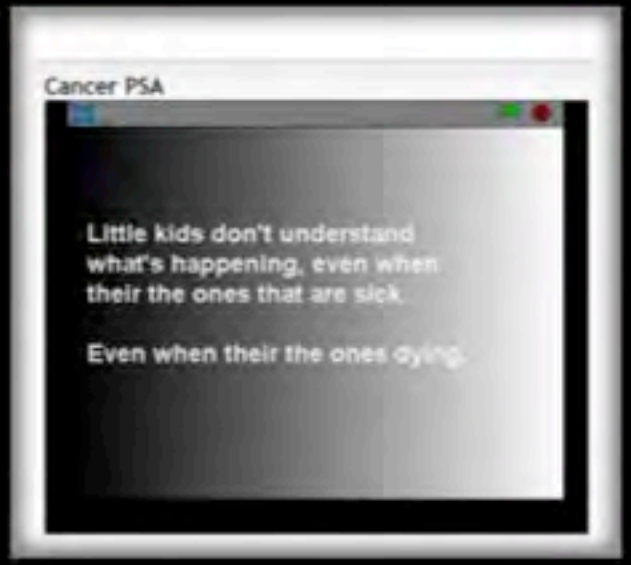


A Story About My Sister

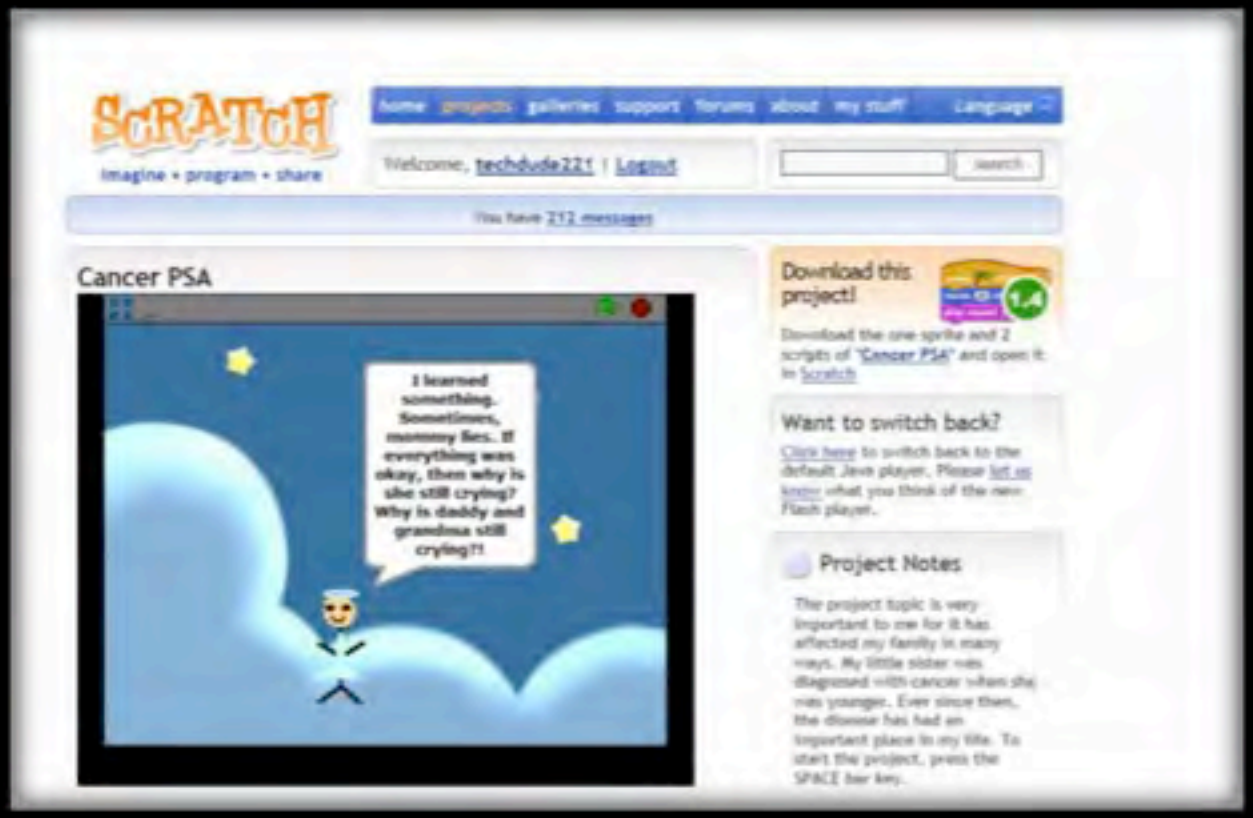
All over the world...
Everyday...
Children become sick with cancer...

A Family's Personal Feelings

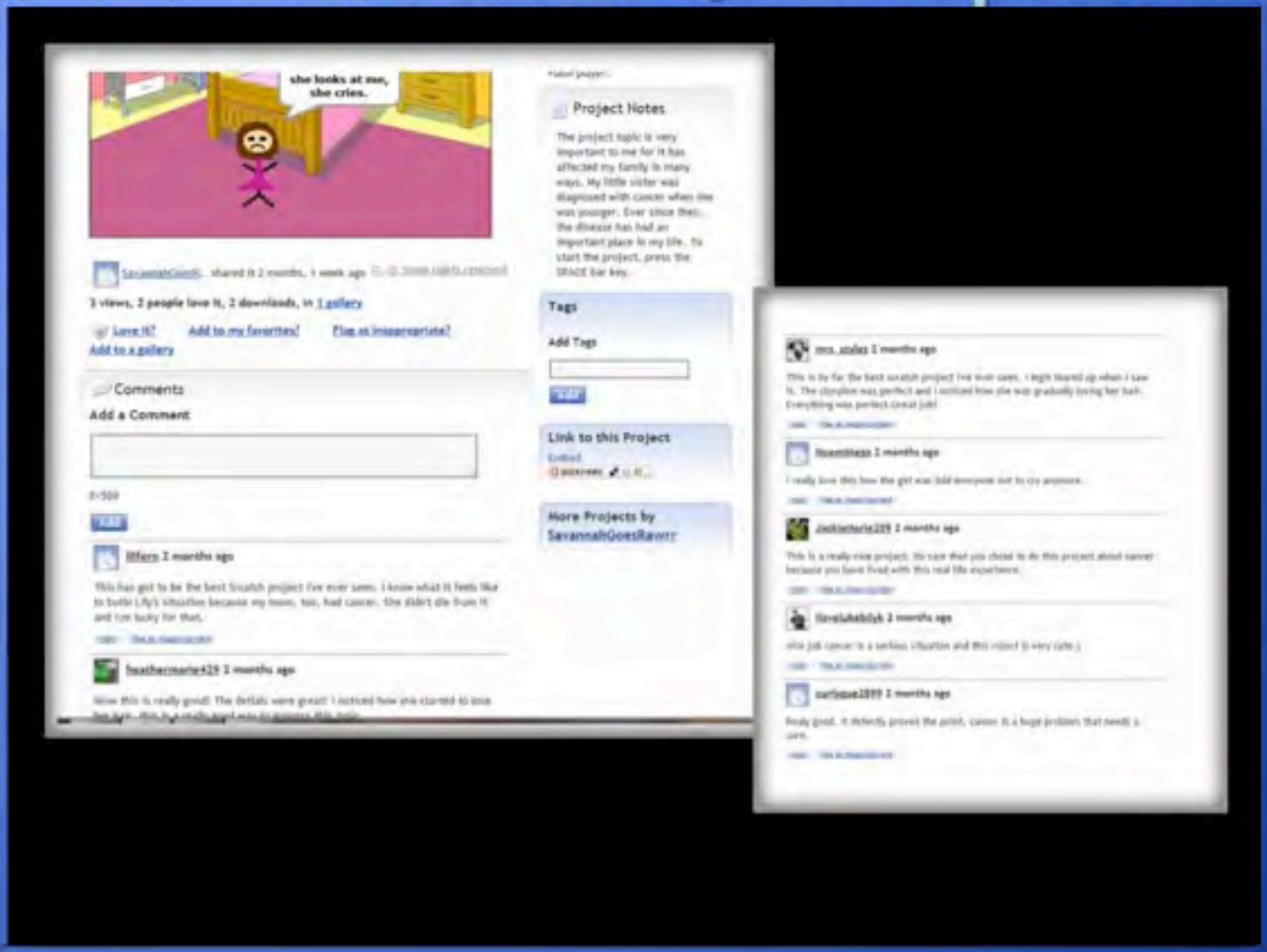




21st Century Learning



Online Discussions / Netiquette



Scratching to Make Learning Relevant

Credits

- Bored Students in Lecture Hall . (2009). Image. Retrieved July 11, 2012, from MicrosoftOffice.com: http://office.microsoft.com/en-us/images/results.aspx?qu=students&ctt=1#ai:MP900443256|mt:0|
- DUCKofD3ATH on Flickr. (2007). Image. Atlantis Comes Home. Retrieved July 12, 2012 from Fotopedia.com: http://fr.fotopedia.com/items/flickr-626754359
- NASA Goddard Photo and Video on Flickr. (2011). Image. Space Shuttle Discovery STS-133 . Retrieved July 12, 2012 from Fotopedia.com: http://www.fotopedia.com/items/flickr-5477483526
- relevant. (n.d.). *Dictionary.com Unabridged*. Retrieved July 11, 2012, from Dictionary.com website: http://dictionary.reference.com/browse/relevant
- Teacher in a school pointing to the blackboard. (n.d.). Image. Retrieved July 11, 2012 from Microsoft Office.com: http://office.microsoft.com/en-us/images/results.aspx?ex=2&qu=blackboard#ai:MC900295477|mt:0|
- Undertow851 on Flickr. (2011). Image. Halley's Comet in 1910 from Mount Wilson Observatory. Retrieved July 12, 2012 from Fotopedia.com: http://www.fotopedia.com/items/flickr-5809972260

Barb Manchee

Pittsford
Summer Enrichment

2011 Course Brochure

Creative Thinking through Game Design and Multimedia

"Would you like to design your own game, create your own animation and multimedia project? Using an easy programming language developed by MIT, you can learn about game design, programming, creative thinking and you can have fun!"

2011 Course Brochure

Goal

Objectives

Students will

1.)

PROGRAMMING CONCEPTS AND SKILLS SUPPORTED IN Scratch

In the process of creating interactive stories, games, and animations with Scratch, young people can learn important computational skills and concepts.

PROBLEM-SOLVING AND PROJECT-DESIGN SKILLS

- logical reasoning
- debugging problems
- developing ideas from initial conception to completed project
- sustained focus and perseverance

FUNDAMENTAL IDEAS ABOUT COMPUTERS AND PROGRAMMING

- Computer programs tell the computer precisely what to do, step-by-step
- Writing computer programs doesn't require special expertise, just clear and careful thinking

SPECIFIC PROGRAMMING CONCEPTS

Concept	Explanation	Example
sequence	To create a program in Scratch, you need to think systematically about the order of steps.	

2.)


11
3


MORNING NOON & NIGHT
PITTSFORD FARMS
DAIRY


MORNING NOON & NIGHT
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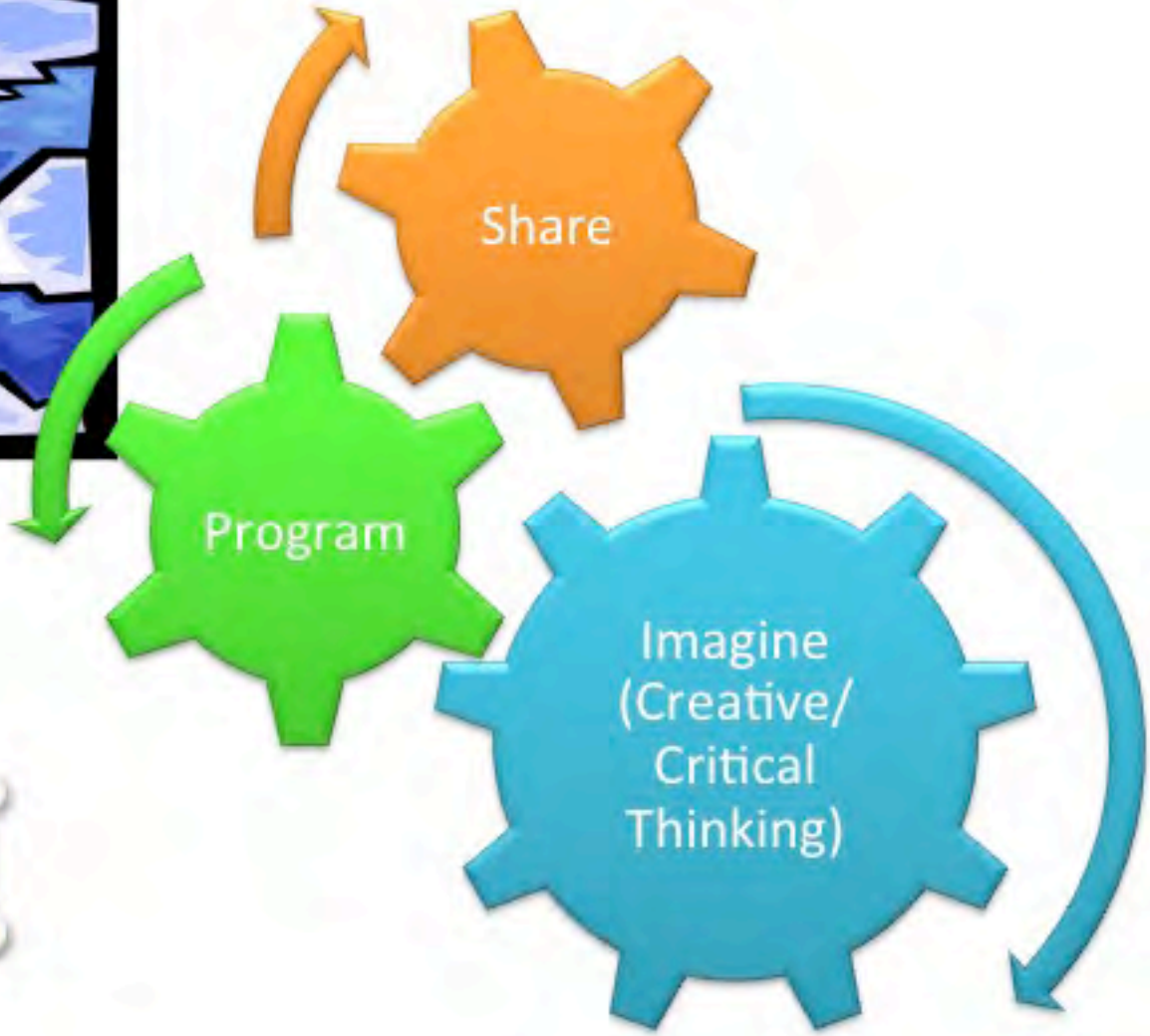
Flipped

www.pittsfordschools.org/webpages/bmanchee

www.pittsfordschools.org/webpages/enatoli



SCRATCH

imagine • program • share

www.animationish.com/lessons.php

FableVision

Animation-ish™

MAKE YOUR MARK...MOVE!

POWERED BY TOONBOOM

Home About FAQ Lessons Curriculum Community COMING SOON

Lesson 1: Make a doodle

Summary:

Join Peter H. Reynolds and the animators of FableVision as they explore the features of the first level of Animation-ish, "Wiggledoodle-ish." Peter shows how easy it is to bring a doodle to life by tracing over it 3 times to

Welcome guest! The following lessons are available to view. Have fun playing!

Lessons: Animation (12)

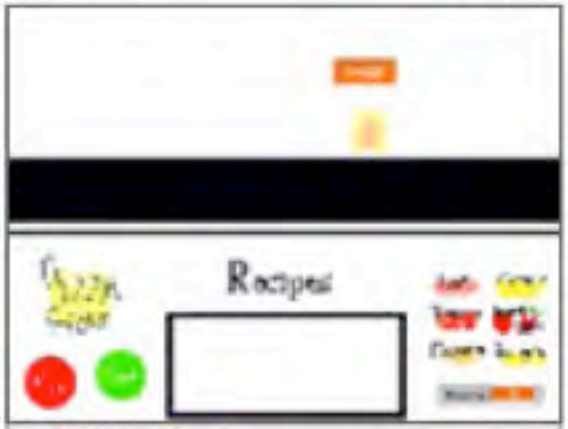
Lesson1: Make a doodle
Learn how to use the first level of Animation-ish with a special demonstration by Peter H Reynolds.
Time: 5:02 Level: Wiggledoodle-ish

Lesson2: Flipbook-ish
Peter and company explore the second level of Animation-ish by making a flower grow.
Time: 5:32 Level: Flipbook-ish

Lesson3: Advanced-ish (Part 1)
The third level of Animation-ish is demonstrated when Pete draws an alien in a spaceship.
Time: 4:36 Level: Advanced-ish

Lesson4: Advanced-ish (Part 2)

Rm224's Favorites



Pizza -beta

by Llamalover

Fighting Bees

by BoltBait

Impossible Mother...

by ffred

Photopuzzle

by goch


Tutorials/ videos
Storyboards
Scratch Cards
Scripts
Collaborative Learning/ Peer Instruction

Change Color

Move to a Beat

Key Moves

Say Something

Glide

Follow the Mouse

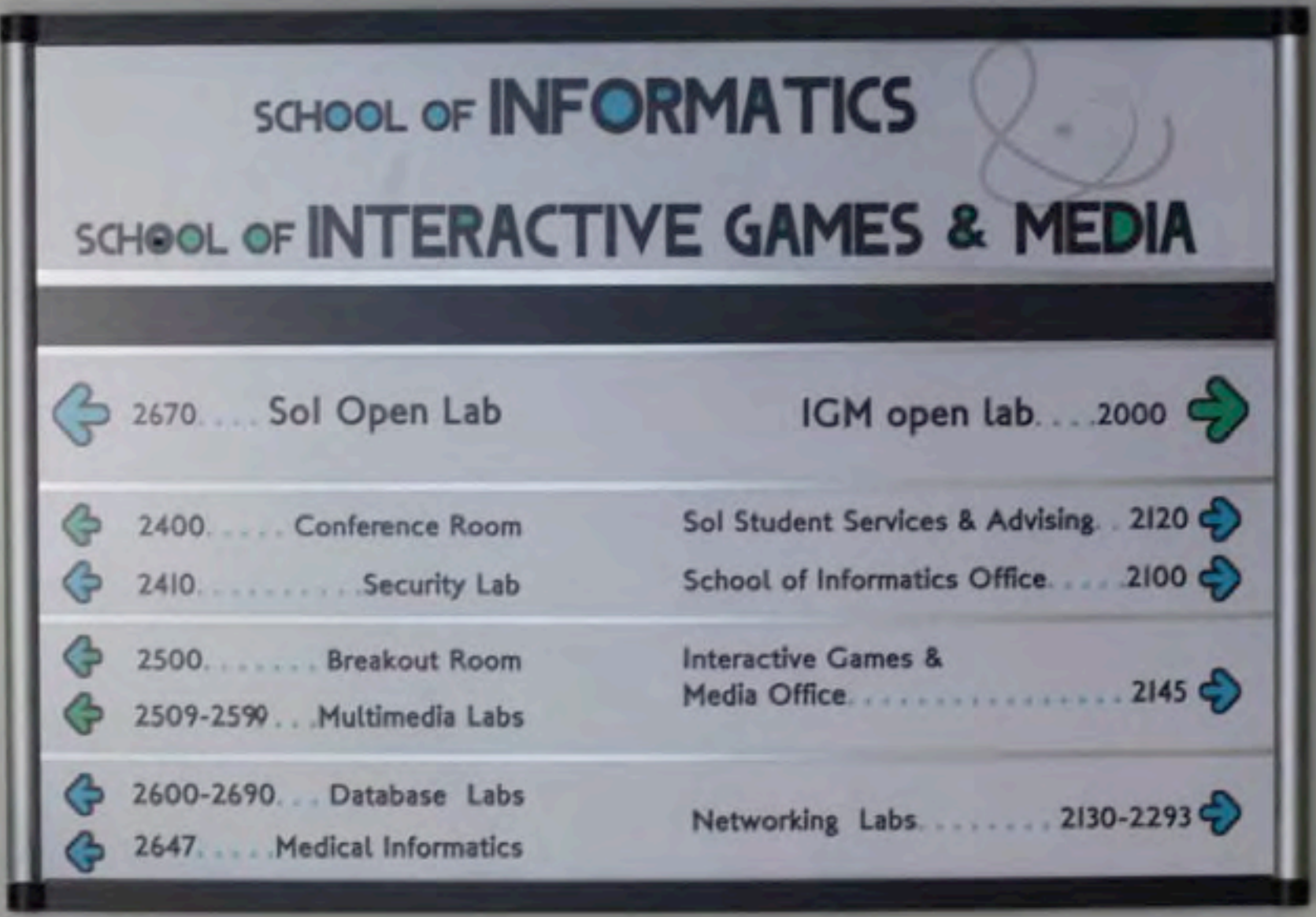
Dance Twist

Interactive Whirl

Animate It


The Strong
National Museum of PLAY


GREENEBAUM, SAIGER,
& KASDIN, P.C.
Certified Public Accountants
Second Avenue
Software, Inc.
TOBEY VILLAGE
OFFICE PARK
BLDG. 190


SCHOOL OF INFORMATICS
&
SCHOOL OF INTERACTIVE GAMES & MEDIA
2670 . . . . Sol Open Lab
IGM open lab 2000
2400 . . . . . Conference Room
2410 . . . . . Security Lab
Sol Student Services & Advising . . 2120
School of Informatics Office 2100
2500 . . . . . Breakout Room
2509-2599 . . . Multimedia Labs
Interactive Games & Media Office 2145
2600-2690 . . . Database Labs
2647 . . . . . Medical Informatics
Networking Labs 2130-2293


MORNING NOON & NIGHT
PITTSFORD FARMS
DAIRY


MORNING NOON & NIGHT
PITTSFORD FARMS
DAIRY


MORNING NOON & NIGHT
PITTSFORD FARMS
DAIRY

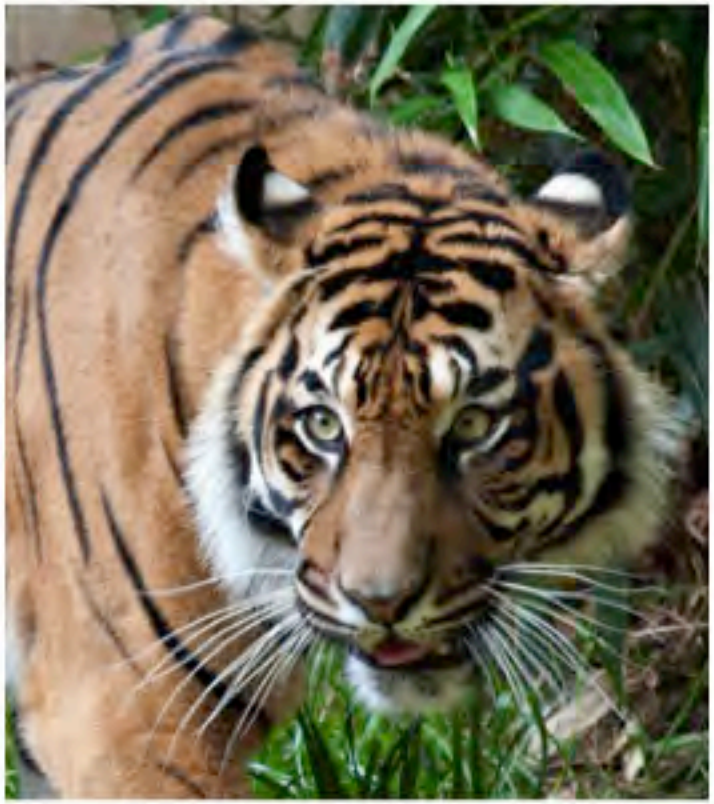
Janet Dee

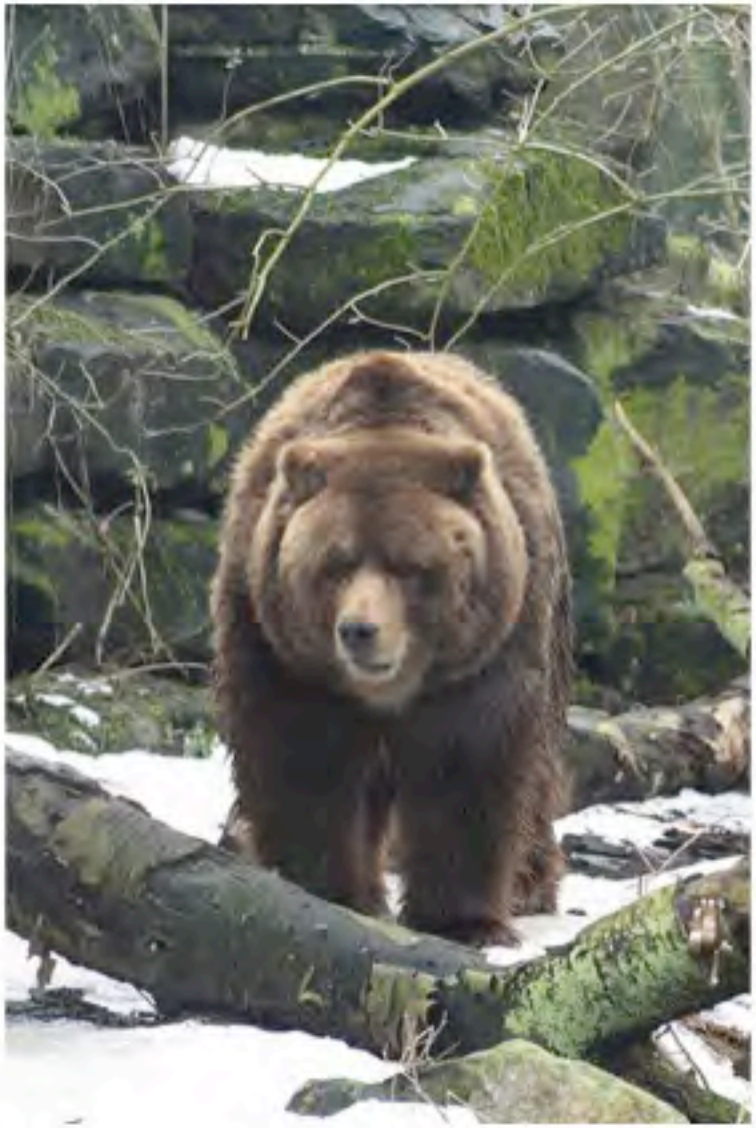
Oh the PresentationPossibilities!

SCRATCH

Janet Dee
Reading Memorial High School
Reading, MA
With Special Thanks to
Ms. Dyment and her ninth grade advisory students

Present to whom?





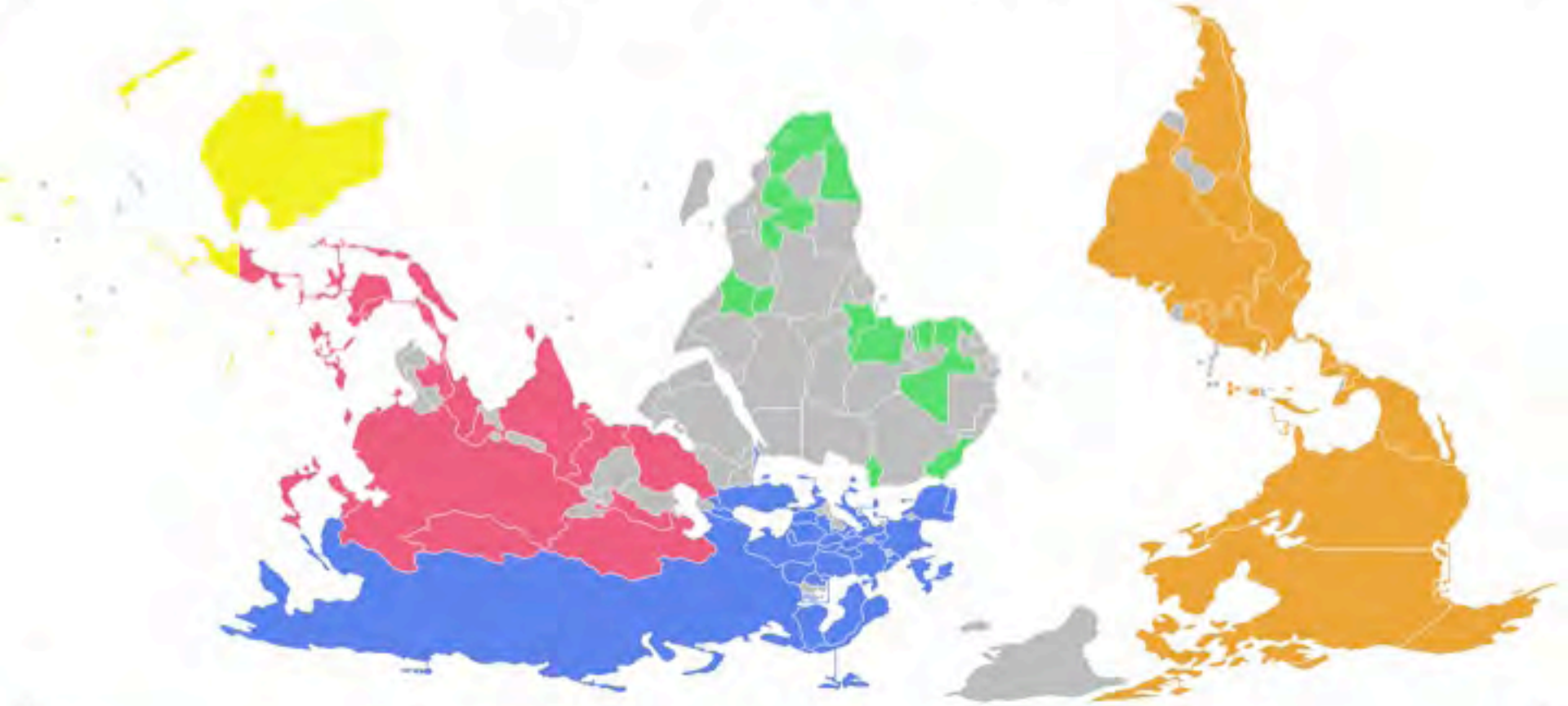
Groan!

“About me”… in ninth grade?


“Show me
the
template!”


"One of the great tragedies of the current computer revolution is the widespread expectation that every piece of software should be easy to use." -John Sviokla
Harvard Business Review,
May 8, 2009

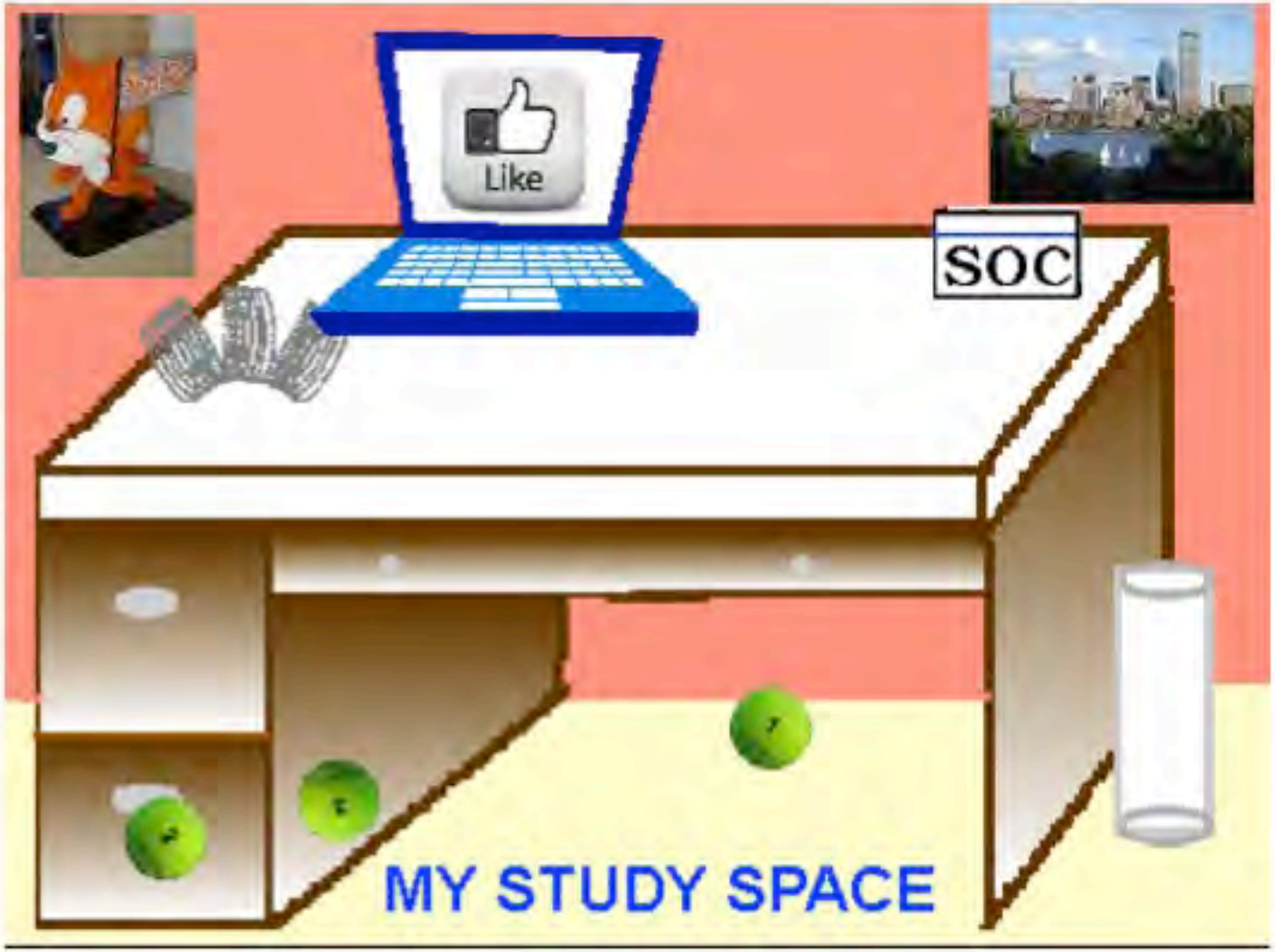
Turn their world upside down?



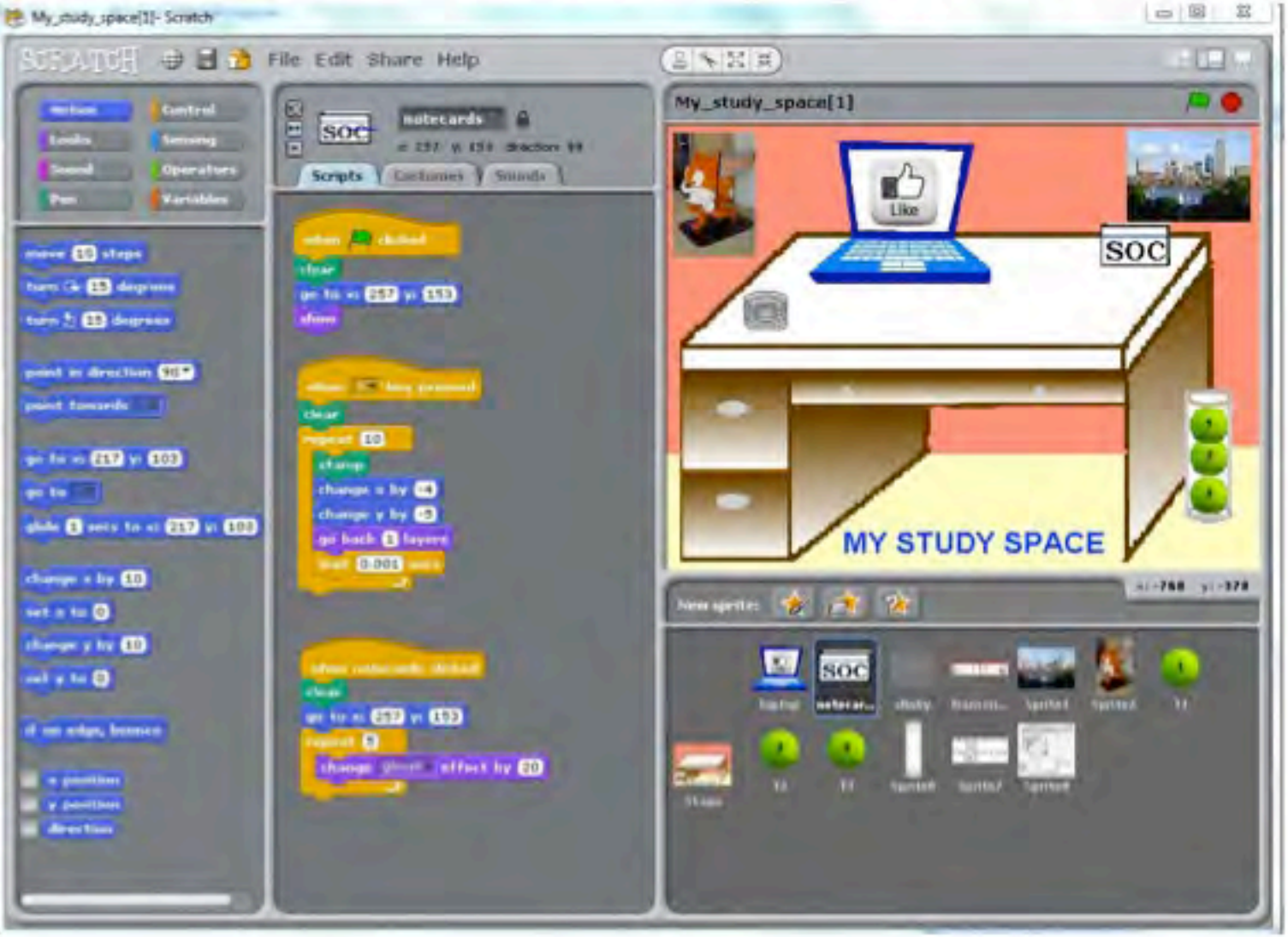
Better yet, tilt it - just enough…

Step 1: Model my finished sample

Chaos meets calm in a tactile world

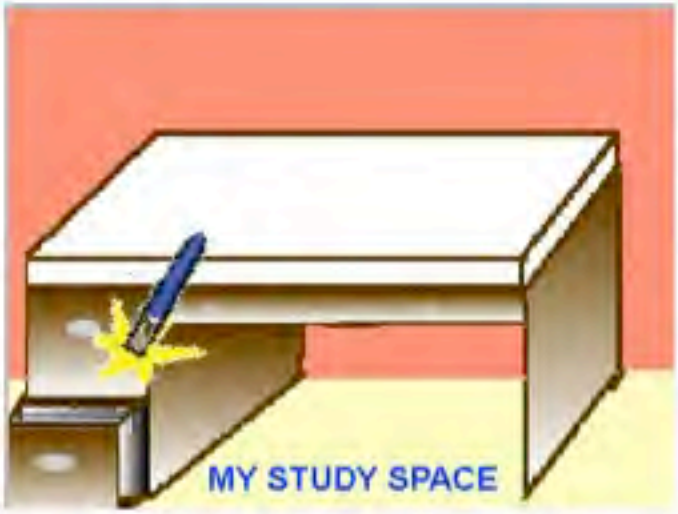


Step 2: Reveal the workspace



Step 3: Inspire with just one idea

Animate the background object

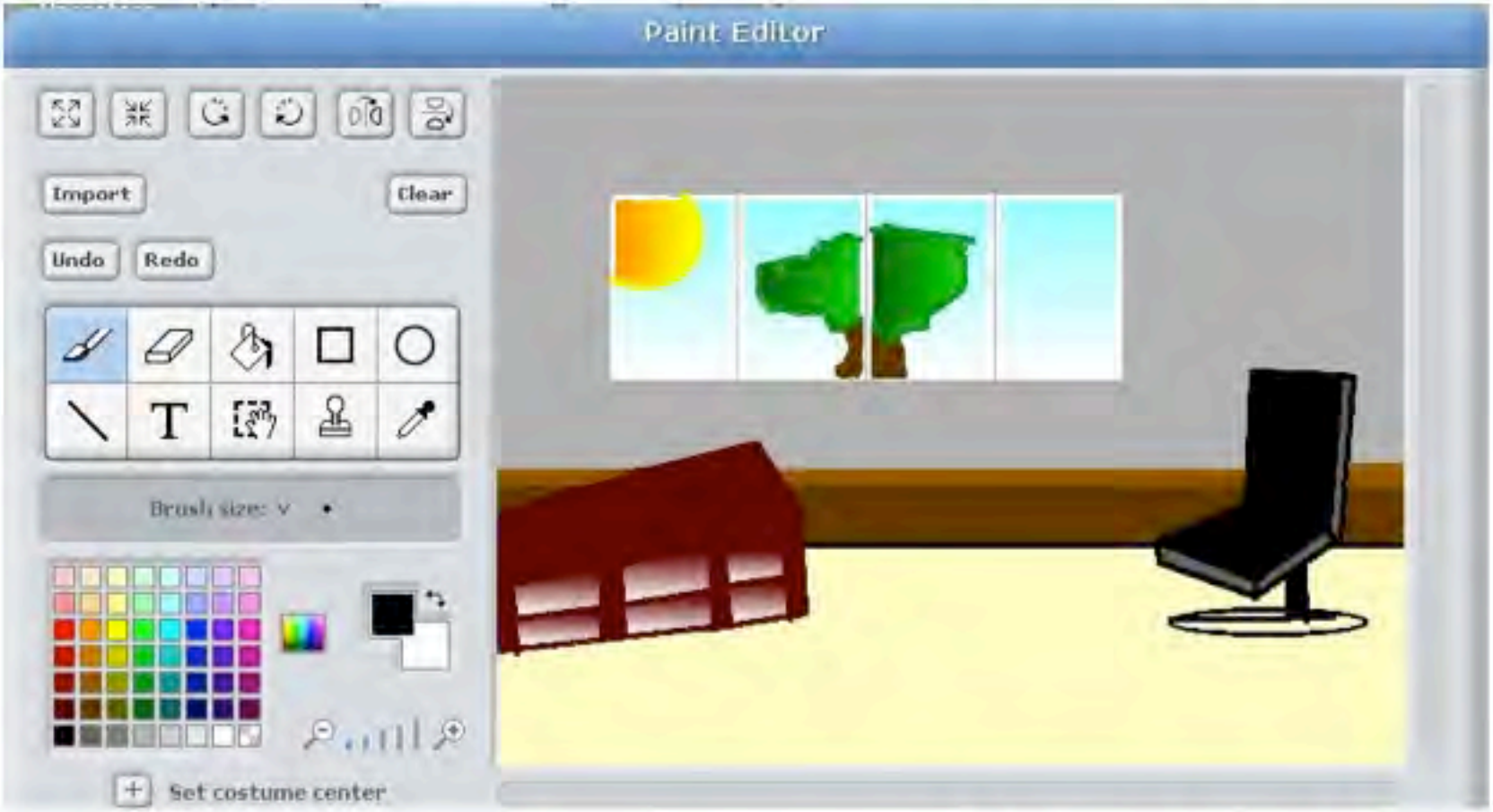


Ready, Set, Reflect

Mood Change!

Created at Doppleme.com

Drew's Study Space Design

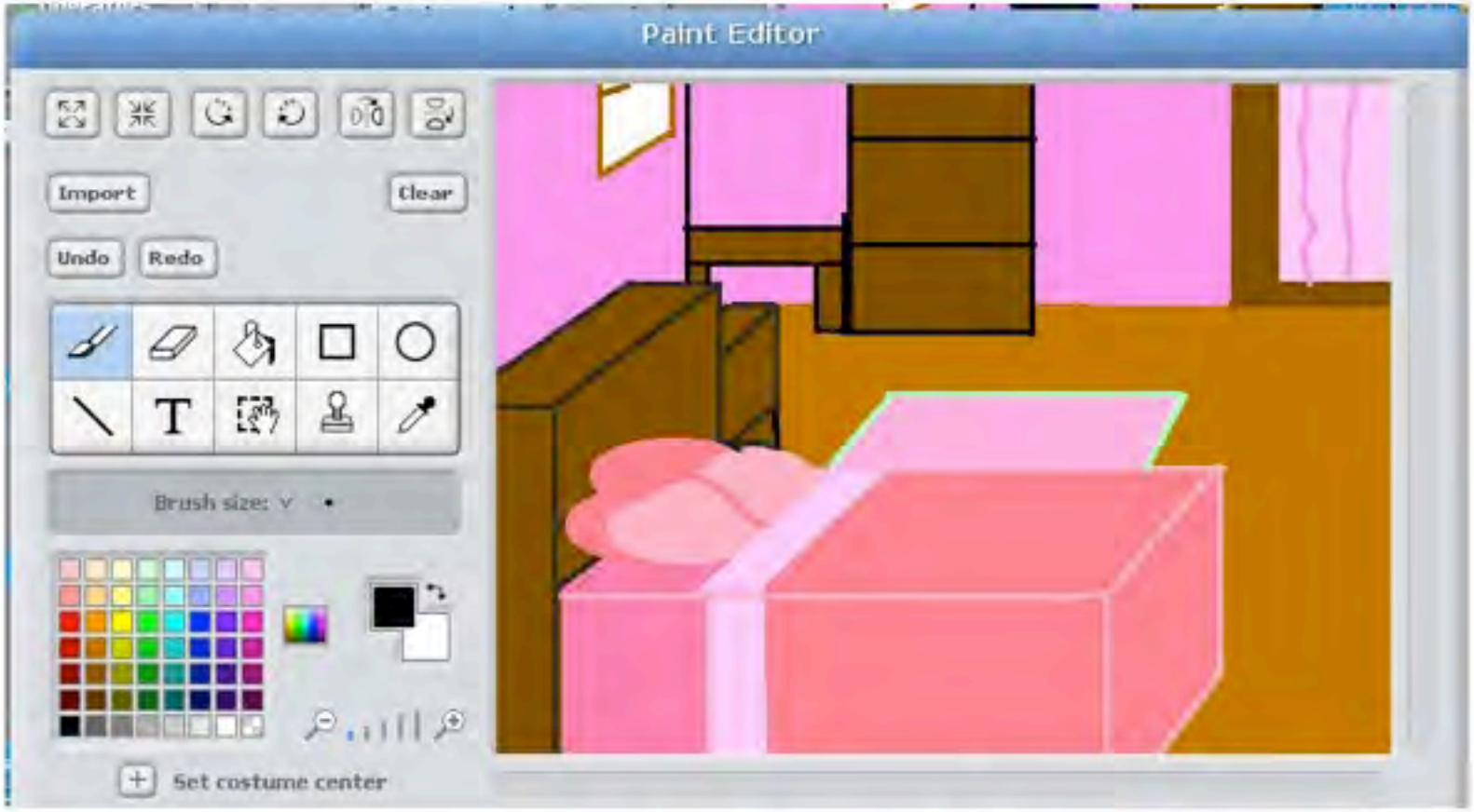


Can you tell what kind of learner he is?

Add the sprites and scripts - Each with a purpose!

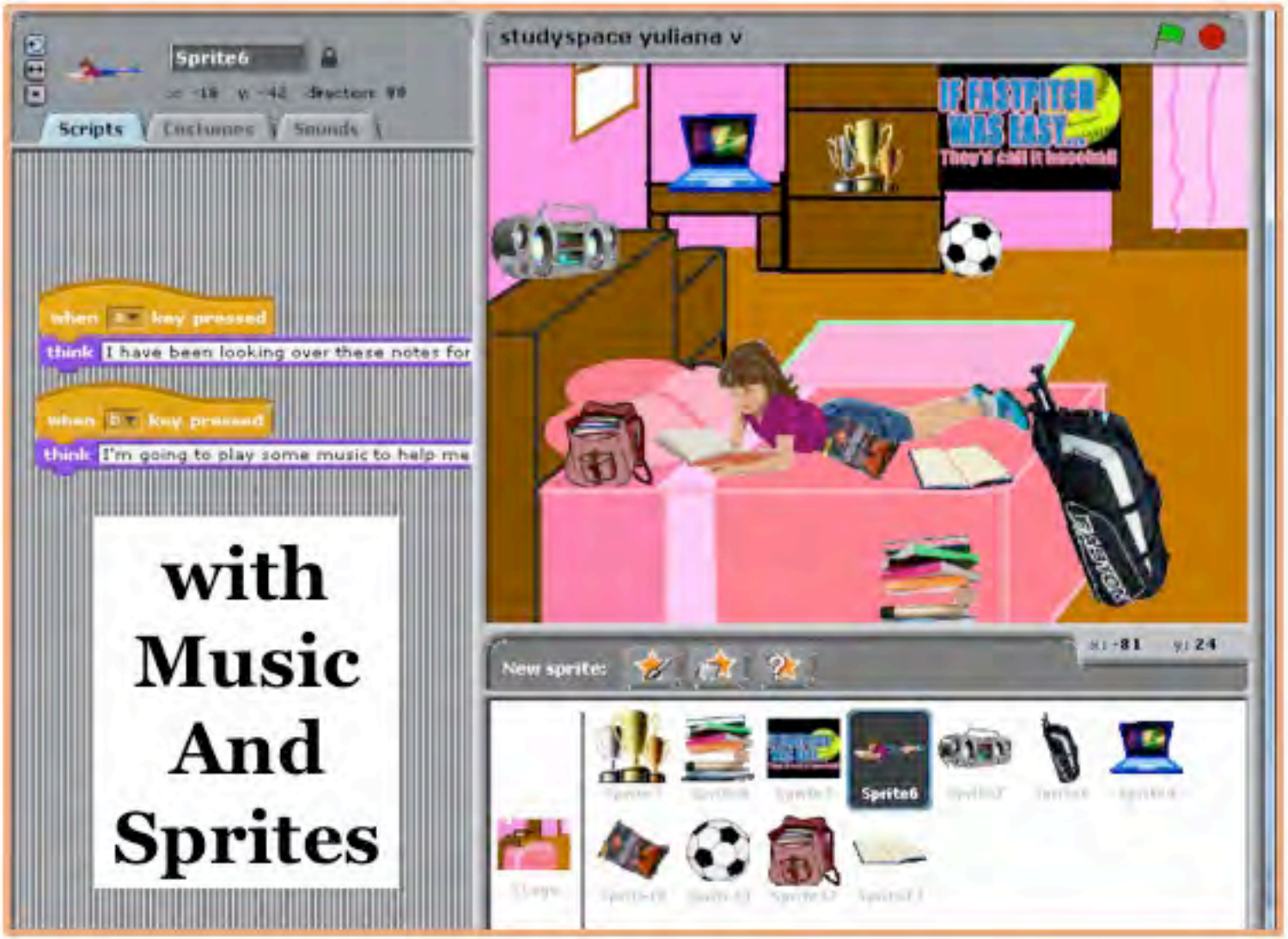
Now can you tell?

Yuliana's Study Space Design



Perspective drawing takes time

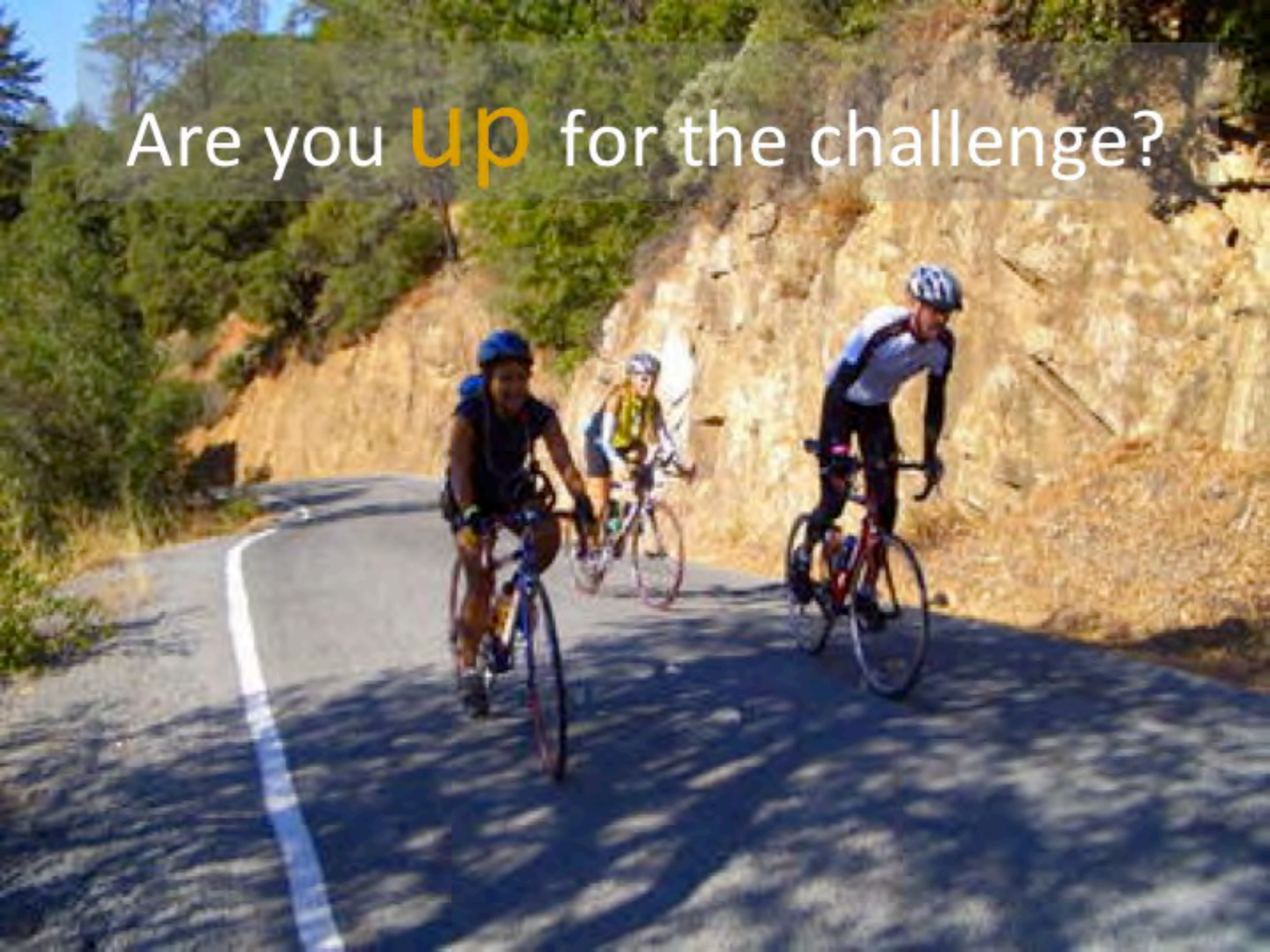
Freedom to fill her world



with Music And Sprites

Can you connect with this student?

Mix up the diet – throw a little computational thinking into their presentation world


Are you up for the challenge?

Frank Sabaté

Digital Augmented Stories with Scratch

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MILK

Videogame Creation Workshop

4th Grade Students

16 Sessions

Work in Pairs

Process and Final Product Evaluation

Digital Augmented Stories

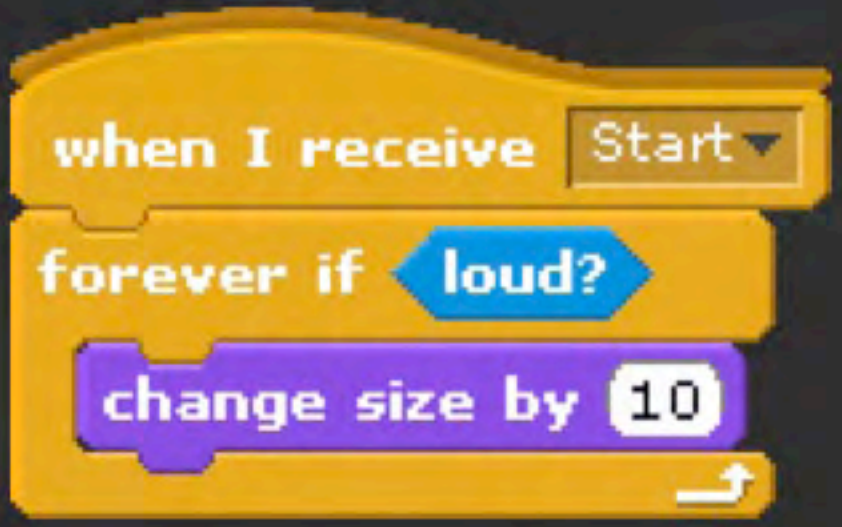
5th Grade Students

8 Sessions

Work in Small Groups

Process and Final Product Evaluation

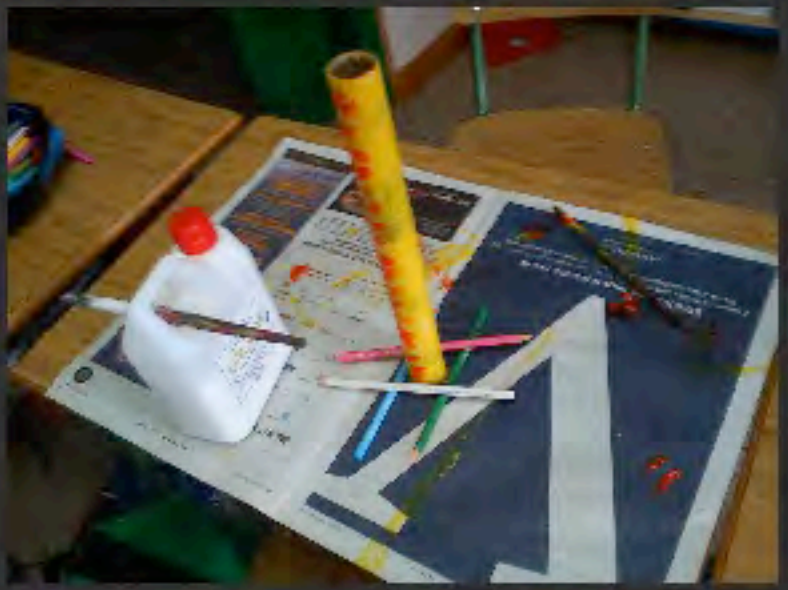

E
F


when I receive Start
forever if loud?
change size by 10

Session 01: Brainstorming

Session 02: Writing the plot

Session 03: Designing the model



Session 04: Sharing ideas

Sessions 05, 06, 07: Programming

Session 08: Recording the dialogs

Thanks!

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