

CoderDojo Athenry

"Above all, be cool"



Every week:

- ✓ Sign in at the door

If you are new:

- ✓ Fill in Registration Form
- ✓ Ask a Mentor how to get started

Make sure you are on the Athenry
Parents/Kids Google Group: email
coderdojoathenry@gmail.com

CoderDojo Athenry

Scratch

Intermediate & Advanced



Code and notes by Michael Madden, 2013

Today's Ninja Challenge: Create Physical Models, Transfer to Computer, and Animate Them!



Today's Big Ideas

Physical and
Digital Models

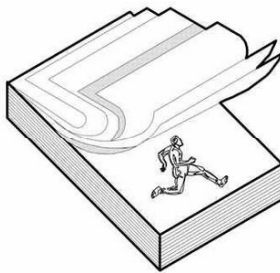
Loops and
Variables

Graphics

Why Build Physical Models Before Animation?



How Animation Works



Reminder
from a
previous
week



switch to costume costume1

next costume

wait 1 secs

forever

repeat 10

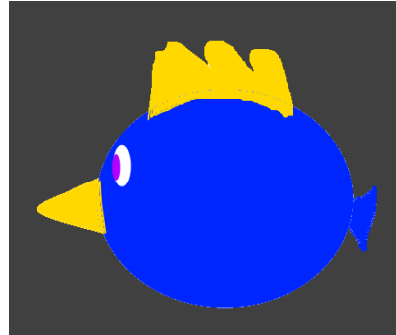
Let's Build Some Models!



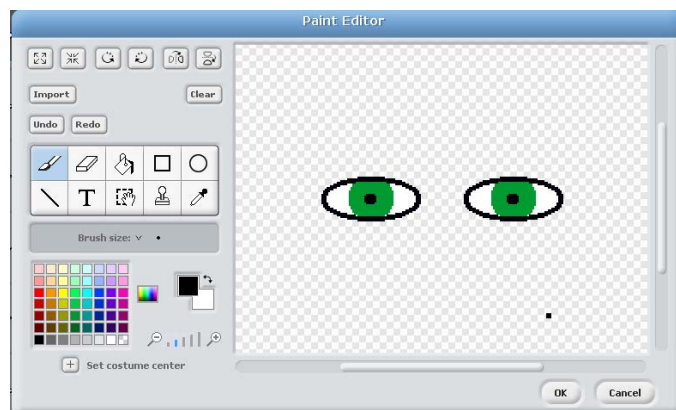
Two Ways to Make Your Physical Model a Digital Model



Computer Graphics Method



Animating Eyes with Computer Graphics: 1



Draw one, then use Stamp to copy it

Animating Eyes with Computer Graphics: 2

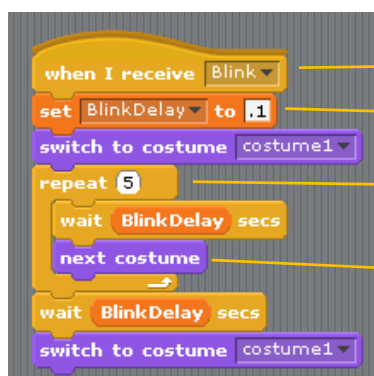


Again, need lots of slightly different versions for the animation

The more you have, the smoother it will look

My method: copy previous costume; delete one eye, modify other one, copy the modified eye

Code to Animate Eyes



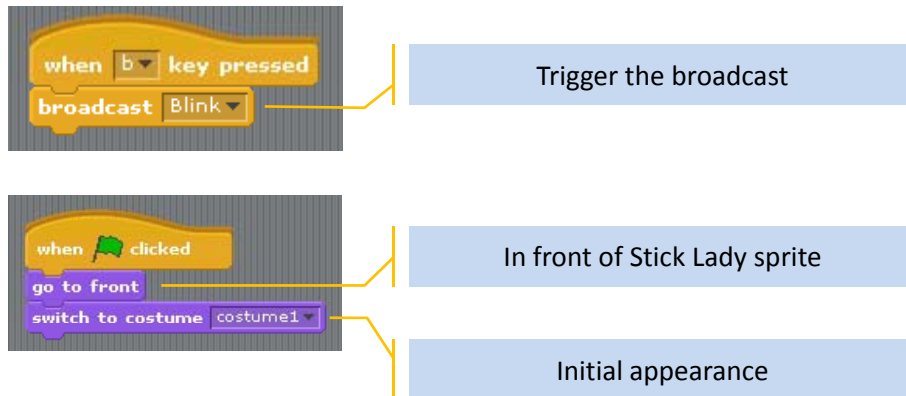
Use a Broadcast to trigger animation

Variable for Delay: can fine-tune speed

Loop for blinking

Switch to next costume after delay

Extra Code for Eyes Animation



Clay Models and Photography: 1



Resize to lower resolution, save as **GIF/PNG/JPEG**.

I'm using **Paint.NET** on Windows:
Free, not hard to use, not too basic.

Take photo on **neutral background**.
Open on computer.
Remove background & clean up.

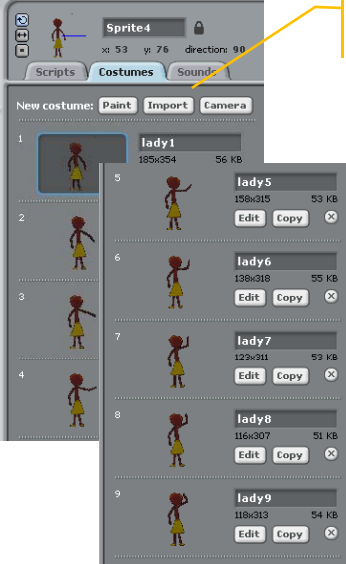


'Magic Wand' to select background easily.

Press Delete key to remove it.

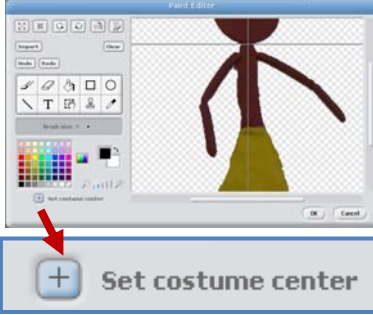


Clay Models and Photography: 2



Import costumes in Scratch.

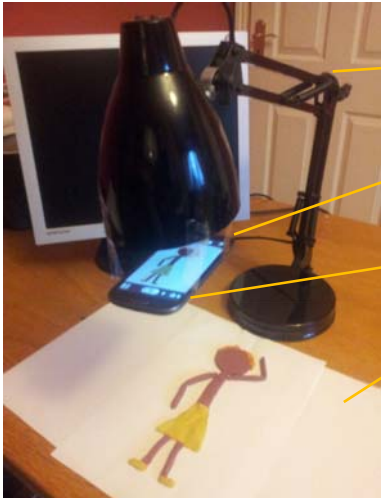
Need lots with slightly different poses.



Set costume center

To avoid jittery animations, set costumes to have a consistent centre.

My Super High Tech Rig for Photographing Clay Models



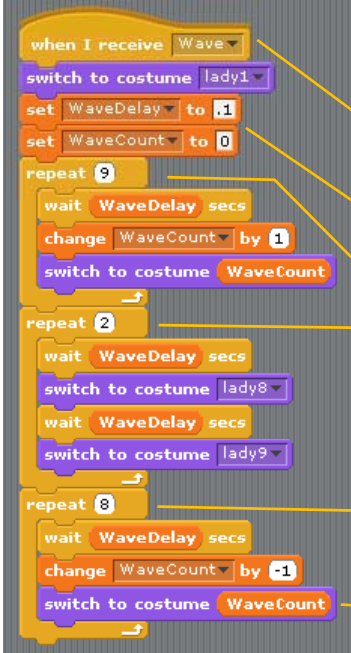
Desk lamp (off)

Sellotape

Camera phone

Background

Animating Your Clay Model



Use a Broadcast to trigger animation

Variables for Delay and Costume

Loop to swing arm up

Loop to wave

Loop to swing arm down

Switch to costume number with variable

What Else Can You Do For Modelling and Animation?

1. Write a story and animate it?
2. Create new sprites for your Scratch games?
3. Design a model for Minecraft?
4. Use Lego figures or others?
5. Show us what you can achieve!



At the End ...

Upload your project to the Scratch Website

user: **cdathenry** password: _____

Access it
from home

Improve it

Show your
friends!

