



# Demystify the Web:

Engaging Youth to Become  
Tomorrow's (SAFE) Digital Creators

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Co-Founder, Marit Collective

@srozek | @HiveWR @MaritCollective



1. The only thing to fear is fear itself
2. Introductions!
3. Digital literacy: Why does it matter?
4. Navigating digital citizenship, safety, online addiction and more
5. Help your child be a digital creator, not just a consumer
6. Questions?

# Hi!

UW Electrical Engineering  
Serial entrepreneur  
Technology/Arts/Social Good  
Marketing  
Training  
Small Business  
Not-for-profit

Hackademy  
Year of Code Waterloo Region  
Hive Waterloo Region  
Marit Collective





- We work in our community to:
  - **Teach and promote digital literacy skills essential for success in the 21st century**
  - **Build diversity and greater inclusion within our tech sector**
- Our network of Hive members includes individuals, not-for-profit and for-profit organizations, community groups, charities, and individuals, that support and work towards our vision
- Meetups every 3 months with quick talks on a variety of subjects from tech in the classroom to VR to augmented tools for eyesight to...
- Information available at [hive.wr](http://hive.wr) and [facebook.com/HiveWR](https://facebook.com/HiveWR)



Marit Collective is a social organization that encourages a culture of depth and thoughtfulness through exploring personal insight and human connection. We create space for respectful discussion and consciousness-raising within our own groups and community, working at the personal level to foster more empathy and awareness of each other. We believe that individual shifts in understanding can lead to larger societal evolution in an increasingly polarized world.





## Our Values:

- Human connection (vs. only digital)
- Thoughtfulness and respect – seeing the humanity in others
- Intentional community – bringing people together to have deeper discussions about the things that matter in our lives today
- Celebrating life together

A promotional poster for an event. The background is a deep red color. In the lower-left corner, there is a row of ten matches. The first match on the left is lit, with a bright orange and yellow flame. The other nine matches are unlit. In the upper-left quadrant, white text reads: "Talking &amp; Walking #1: A Series of Intersectional Dialogues", "presented by Marit Collective April 8, 2018", and "featuring speaker Timiebi Aganaba-Jeanty, PhD". In the lower-right quadrant, there is a square inset photograph of a woman with dark hair, wearing a dark blazer over a light-colored top, smiling at the camera.

*1:30 - 3:30pm*  
*44 Gaukel St.*  
*Kitchener*

*Child Friendly!*

**Register at:**  
**marit.ca**





**Code is the New Literacy**



**Diversity, Inclusion & Equity**



# **Why is Digital Literacy Important?**



**The Internets!!!**





# omg the Internets...

```
#include <sys/types.h>
#include <sys/socket.h>
#include <sys/stat.h>
#include <sys/time.h>
#include <sys/user.h>
#include <sys/wait.h>
#include <sys/xattr.h>
#include <unistd.h>
#include <vm/vm.h>
#include <vm/vm_area.h>
#include <vm/vm_lock.h>
#include <vm/vm_page.h>
#include <vm/vm_page_prot.h>
#include <vm/vm_statistics.h>
#include <vm/vm_zone.h>

struct vm_area_struct {
    caddr_t addr;
    unsigned long bytes;
    unsigned long temp_flags;
    int inc_ip;
    int retcode;
};

/* vm_area_struct contains the address of the extension area, or zero if the extension is not present. This check should not be needed, as we can't enter vm_area_struct mode until we set up an extension area */

if (curpcb->pcb_ext == 0)
    return (SIGBUS);
vma = curpcb->pcb_ext->ext_vma;

if (vma->vm_flags & VM_T)
    retcode = SIGTRAP;

extern int vm_area_extend(struct vm_area_struct *vma);
extern int vm_area_stat(struct vm_area_struct *vma);
extern struct pcb *vm_area_pcb(struct vm_area_struct *vma);
extern int vm_area_block(struct vm_area_struct *vma);
extern void vm_area_block(struct vm_area_struct *vma);
extern void vm_area_block(struct vm_area_struct *vma);

void vm_area_prepare(struct vm_area_struct *vma) {
    unsigned char i_byte;
    if (i_byte <= ADDRESS_SIZE_PREFIX) {
        i_byte = fubyte(++addr);
        inc_ip++;
    }
    if (vma->vm_has_vma) {
        switch (i_byte) {
            case OPERAND_SIZE_PREFIX:
                i_byte = fubyte(++addr);
            }
        }
}

#define PGTABLE_SIZE ((512 * 1024) * 1024 / PAGE_SIZE)
#define INTMAP_SIZE 32
#define IONAP_SIZE ctob(IONAPAGES)
#define TSS_SIZE \
    (sizeof(struct pcb_ext) - sizeof(struct segment_descriptor) + INTMAP_SIZE + IONAP_SIZE + 1)

struct vm_area_layout {
    pt_entry_t vml_pgtbl[PGTABLE_SIZE];
    struct pcb vml_pcb;
    struct pcb_ext vml_ext;
    char vml_intmap[INTMAP_SIZE];
    char vml_ionap[IONAP_SIZE];
    char vml_ionap_trailer;
};

void vm_area_initialize(void) {
    int i;
    unsigned long *addr;
    struct vm_area_layout *vml = (struct vm_area_layout *)0;
    struct pcb *pcb;
    struct pcb_ext *ext;
    struct soft_segment_descriptor ssd;

    0, /* segment base address (overwritten) */
    0, /* length (overwritten) */
    TSS, /* segment type */
    0, /* priority level */
    0, /* descriptor present */
    0, /* default blk size */
    0, /* granularity */
}

if (kva == 0)
    return (0);
}
```

Through understanding how technology is made, our children can themselves become digital creators who can influence and change their own world.



*Photo: HackerGrrlz program at Driftwood Park P.S.*



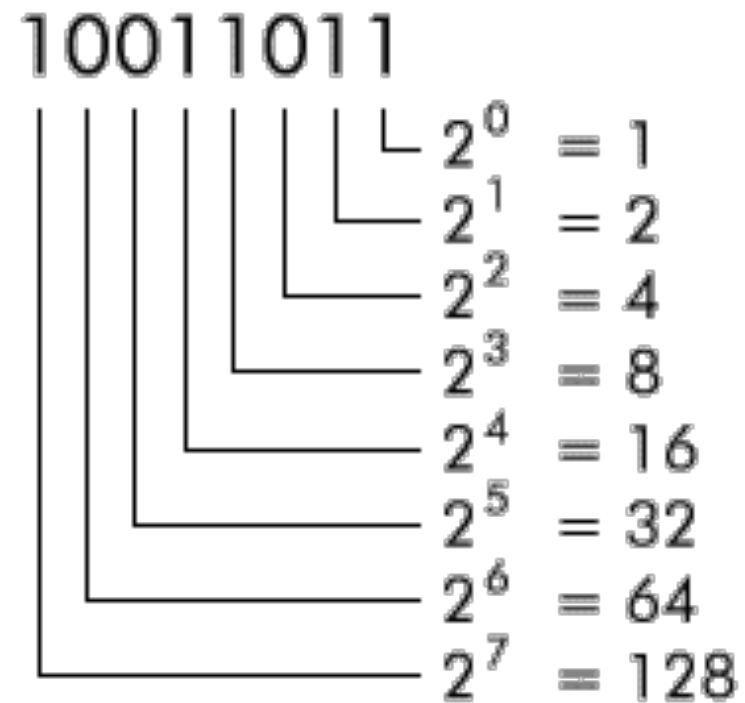
## Teaching Digital Literacy Concepts Can:

- Help teach math concepts used in school:
  - Enable fluency with decimal and binary number systems
  - Understand how zeros and ones can be used to represent information such as digital images and numbers

**155 in  
binary**

**= ?**

**155 in  
binary  
= ?**



## Teaching Digital Literacy Concepts Can:

- Show students how to use logical reasoning to justify procedures and solutions:
  - Develop an understanding of algorithms that goes beyond basic operations of arithmetic
  - Understand fundamental ideas of logic and apply logic to solve problems, such as sorting information into useful order quickly





## Teaching Digital Literacy Concepts Can:

- Give students tools to tell and illustrate their stories (English, art, and graphic design applications)
- Help students understand how computer scientists solve problems and innovate in the world
- Show students how they can connect their other interests, such as music or sports, for example, with computer science to create compelling and meaningful career paths
- Give them tools to communicate with others clearly, effectively, and become empowered citizens of the world

## STEM vs STEAM:

**S**cience

**T**echnology

**E**ngineering

**M**athematics



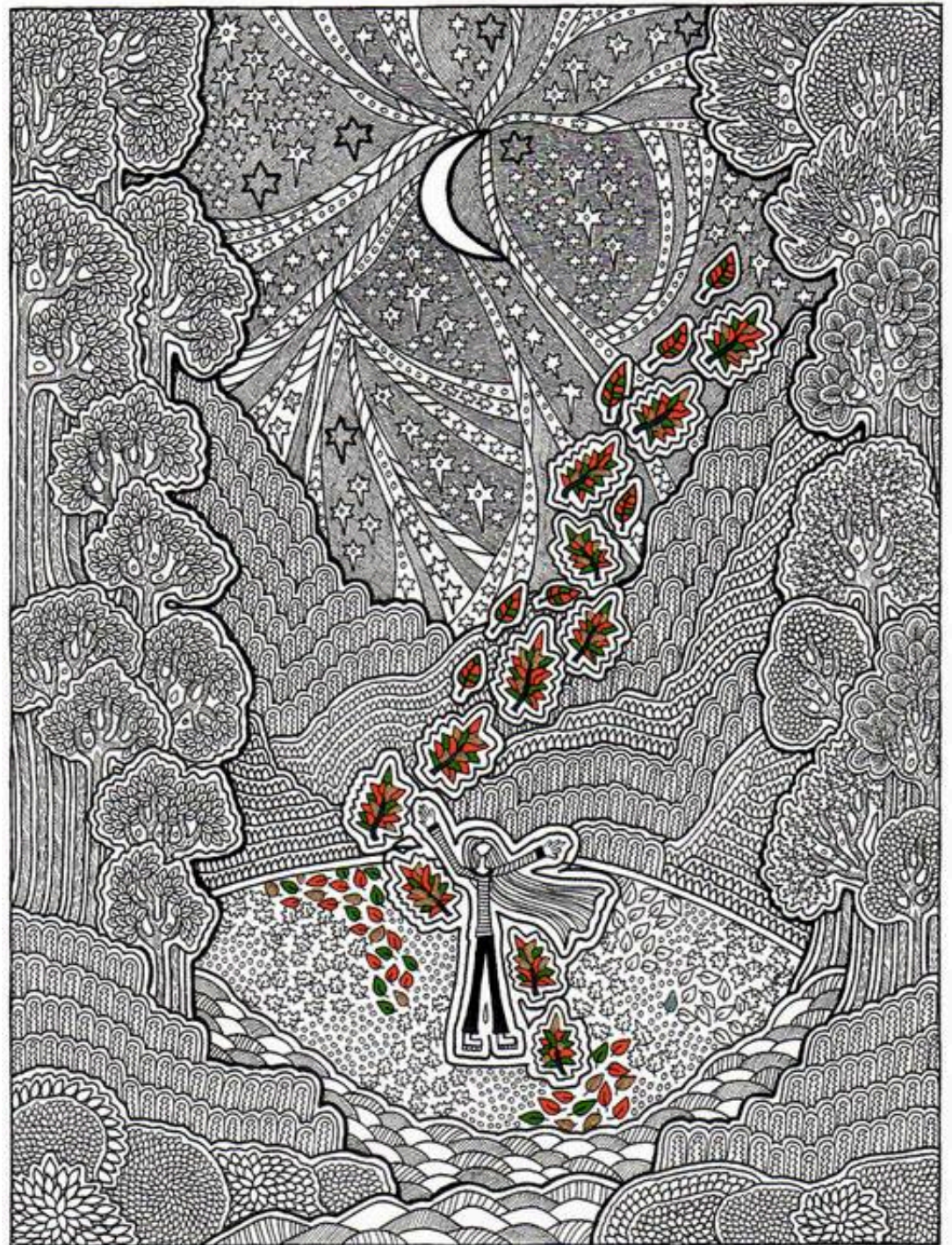


## STEM vs STEAM:

**S**cience  
**T**echnology  
**E**ngineering  
**A**rts  
**M**athematics

“Embracing the Moon”

[http://  
www.windowsbykaitrin.com/](http://www.windowsbykaitrin.com/)





**Navigating  
the waters...**





# Online Safety

# dig·it·al na·tive

*noun*

a person born or brought up during the age of digital technology and therefore familiar with computers and the Internet from an early age.

"the digital tools that are reshaping our economy make more sense to young digital natives than to members of older generations"



Translations, word origin, and more definitions

The new digital native – more discerning, fiscally responsible, skeptical: shared knowledge is their lifestyle

# Knowledge is power



- Inform yourself about the landscape – ask for help!
- Adults don't know what kids are doing because it's so easy for them to do things: they don't talk to parents
- Need open up communications so kids feel ok talking to parents about things; start young, not when they're 15
- Kids need to feel SAFE sharing at any time with you, without judgement – keeps them safe
- For kids: shared knowledge is power

# What is Digital Citizenship?

*"Critical thinking and ethical choices about the content and impact on oneself, others, and one's community of what one sees, says, and produces with media, devices, and technologies."*

Anne Collier, [NetFamilyNews.org](http://NetFamilyNews.org)

Today we communicate through a powerful combination of words, images and sounds. Therefore, becoming "media literate" requires a new set of skills that enable us not only to comprehend, but also to create and distribute information across all mediums.



# What is Digital Citizenship?

Digital Citizenship is the first step to Media Literacy, and prepares youth to navigate online arenas safely and confidently.

We want to help the young people in our lives to become wise users of the powerful technologies that are transforming everything about the way we learn, communicate, and interact!

# Make a Digital Contract

## Family Digital Device Contract

This contract defines the use of the \_\_\_\_\_, herein known as the "device".

The following contract should be adjusted to fit your family's needs by crossing out or adding on as needed.

For your purposes, "inappropriate posts" are defined as (ex nudity, swearing):

\_\_\_\_\_

Device User Name: \_\_\_\_\_

Parent(s)/Guardian Name(s): \_\_\_\_\_

### **For the user**

Having a digital device is a great way to communicate with friends, family and others. It is also a privilege to own one, so it comes with a few rules. By signing the contract, you and your parent(s) agree to the following:

- I will not use the device to bully, harass or threaten others.
- If I receive contact from strangers or read anything that makes me uncomfortable, I agree to tell my parents.

# Parental Monitoring Tools

## Online Safety Nets

Catch & block offensive content



## Apps and Games

View, track and block as appropriate



## Location. Location. Location.

See places your kids visit



## Personal Profiles

Set up as many profiles as you need, one for each child



## Screen Time Management

Schedule parental controls in a snap



## Social Networking Alerts

Avoid online sharks



## Geo-Fencing

Know when your child leaves or enters an area



## Cross Devices

Provides protection at home and on the go on mobile devices

# Things to Discuss with your Kids

# Media literacy: critical thought and analysis, fake news

THE WALL STREET JOURNAL

## Blue Feed, Red Feed

See Liberal Facebook and Conservative Facebook, Side by Side

By Jon Keegan

Published May 18, 2016 at 8:00 a.m. ET | Updated hourly

FILTER FEEDS BY TOPIC:

PRESIDENT TRUMP

HEALTH CARE

GUNS

ABORTION

ISIS

BUDGET

EXECUTIVE ORDER

IMMIGRATION

**LIBERAL** ⓘ

SHOWING POSTS ABOUT: "HEALTH CARE"

**CONSERVATIVE** ⓘ

**The Raw Story** ⓘ  
about an hour ago

Zombie Trumpcare just passed the House.  
And this is how these douchebags are celebrating.



Republicans plan massive beer bash as they take...  
Republicans on Thursday are set to pass legislation that would rip away ...  
RAWSTORY.COM

**The Daily Caller** ⓘ  
about an hour ago

BREAKING NEWS



JUST IN: House Passes Obamacare Repeal Bill  
DAILYCALLER.COM

1.6K 153 332

## How to Teach Children to Think Critically and Recognize Fake News

Living as we do in a world of dark allegations, snarky social media posts and flat-out fake news, teaching kids to think critically is now a cultural imperative.

By Scott Alexander



Photo by Fredrik Broden

"We confuse the fact that our kids are fluent in the use of digital devices with them being capable of analyzing the info those devices provide."

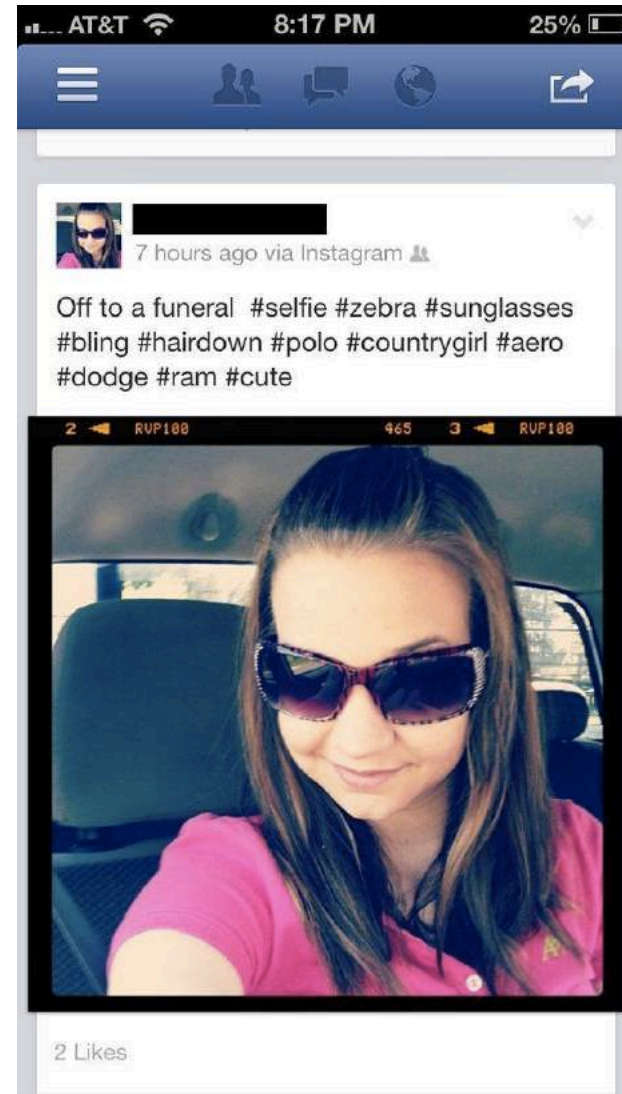
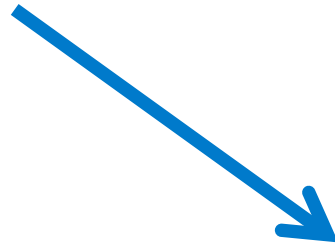
-- *Sam Wineburg, PhD*  
*Stanford professor*

Article link:

<http://bit.ly/2IB8xnB>



**Online privacy,  
reputation management,  
identity formation**



## Protecting your data: identify theft, data theft, online security

Privacy: “it’s not important to me because I’m not a terrorist”.

It’s not just about you, it’s about everyone you interact with online. Use stories to create empathy around privacy – we can’t empathize with data, with credit card numbers. We empathize with people, relationships, and defend family and friends.

DeepFace 



## Piracy and plagiarism...



## Cyberbullying, sexting, etc.

Set time limits on screen time – with software if necessary

Keep devices in public spaces in your home, and set passwords if necessary



\*To consider: Use the platforms in different ways: e.g. online bullying - get peers to support someone who's being bullied, on the same platform

## Engage in simple, positive parenting practices:

- Be involved in your child's online world. Ensure trust from an early age!
- Have ongoing, regular conversations about what's going on in their online world. We can respect privacy but still maintain communication about the issues. (Hint – it pays to have conversations when we're not too emotional about things.)
- Have rules about media and phone use and monitor adherence to those rules, with clear consequences if the rules are not kept.
- Be available for your child to come to you if things go badly in their media spaces.



**Engage in simple, positive parenting practices:**

Demonstrate conscious digital citizenship yourself

Replace screen time with other activities – play board games with them, visit the library, play sports, meet with friends etc. – be an active, engaged parent



# Resources



**BINARY TATTOO**  
*Define your digital identity*

[binarytattoo.com](http://binarytattoo.com)



[www.cyberwise.org](http://www.cyberwise.org)

("No grownup left behind")



[surfieapp.com](http://surfieapp.com)

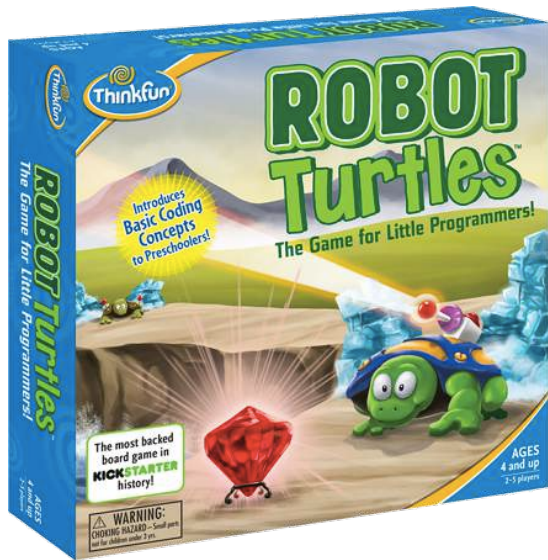


[cryptorpg.com](http://cryptorpg.com)

[www.rpg.net/reviews/archive/17/17198.phtml](http://www.rpg.net/reviews/archive/17/17198.phtml)

**Places to learn ;)**

# 1. Offline Tools



1



Set up the game board with the Turtle Tile in the corner and the Jewel Tile in the center.

2



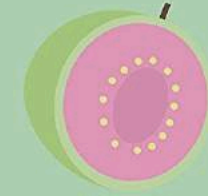
Use Code Cards (Forward, Left, and Right) to program the Turtle.

3



Reach the Jewel Tile and unlock the next level of play!





*Welcome to*

# CODE MONKEY ISLAND

The game of programming, monkeys, & fun



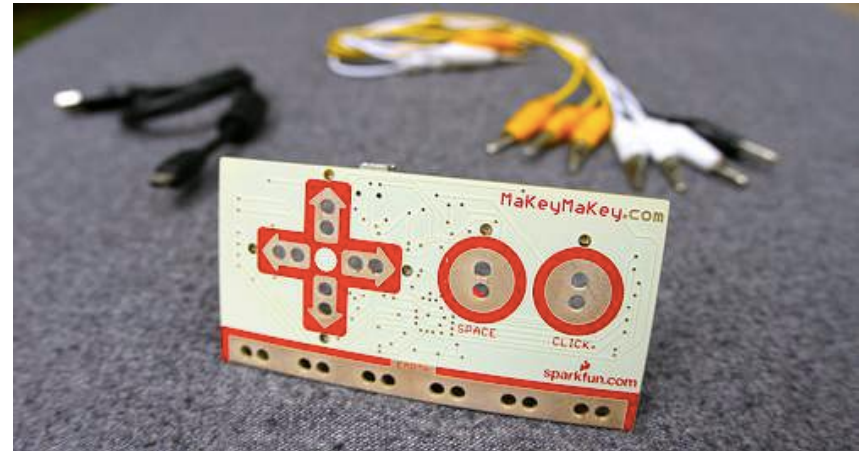
45 - 60



2 - 4



8+



<https://www.youtube.com/watch?v=rfQqh7iCcOU>

## **2. Online Tools**

SCRATCH

SCRATCH JR

[scratch.mit.edu](https://scratch.mit.edu)

[scratchjr.org](https://scratchjr.org)



[lightbot.com](https://lightbot.com)



[eraseallkittens.com](https://eraseallkittens.com)



mozilla

[learning.mozilla.org](https://learning.mozilla.org)

codecademy

[codecademy.com](https://codecademy.com)



[code.org/learn](https://code.org/learn)



[codecombat.com](https://codecombat.com)

# More Resources

[www.edutopia.org/blog/15-ways-teaching-students-coding-vicki-davis](http://www.edutopia.org/blog/15-ways-teaching-students-coding-vicki-davis)

<https://www.ncwit.org/resources/computer-science-box-unplug-your-curriculum>

<http://igamemom.com/kids-activities-learn-coding-without-computer/>

<http://www.scholastic.com/parents/resources/article/parent-child/tools-teach-kids-to-code>

<http://codespark.org/5-activities-to-go-beyond-an-hour-of-code/>

# **3. Local Resources**







**KEEP  
CALM  
IT'S  
ACTIVITY  
TIME!!!**

[thimble.mozilla.org](http://thimble.mozilla.org)



**Thank You!**  
**Questions?**

@srozek | @HiveWR | @MaritCollective  
stephanierozek.ca | hivewr.ca | marit.ca