

Coding K-12

Never too young
Never too old

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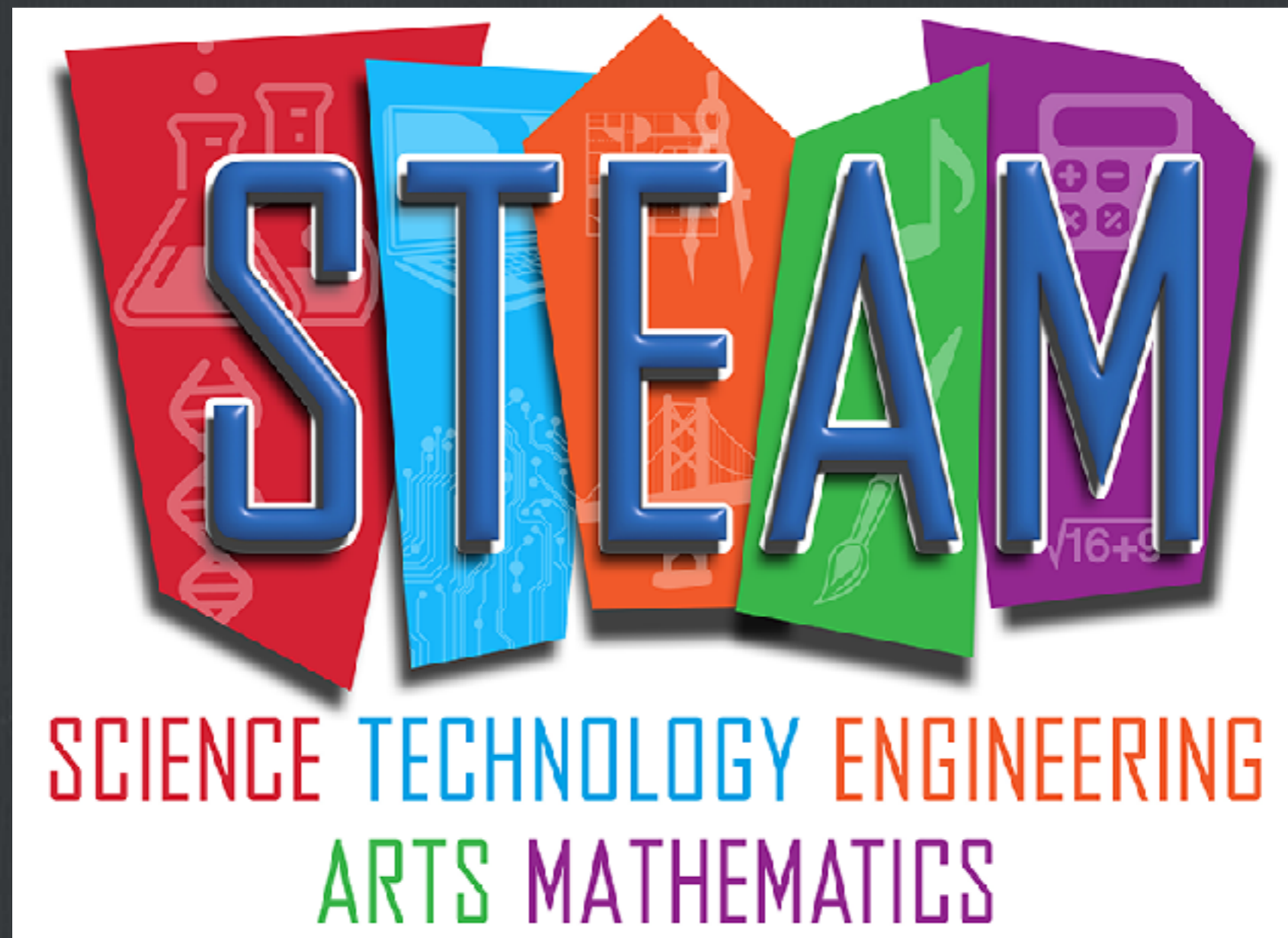
Why code?

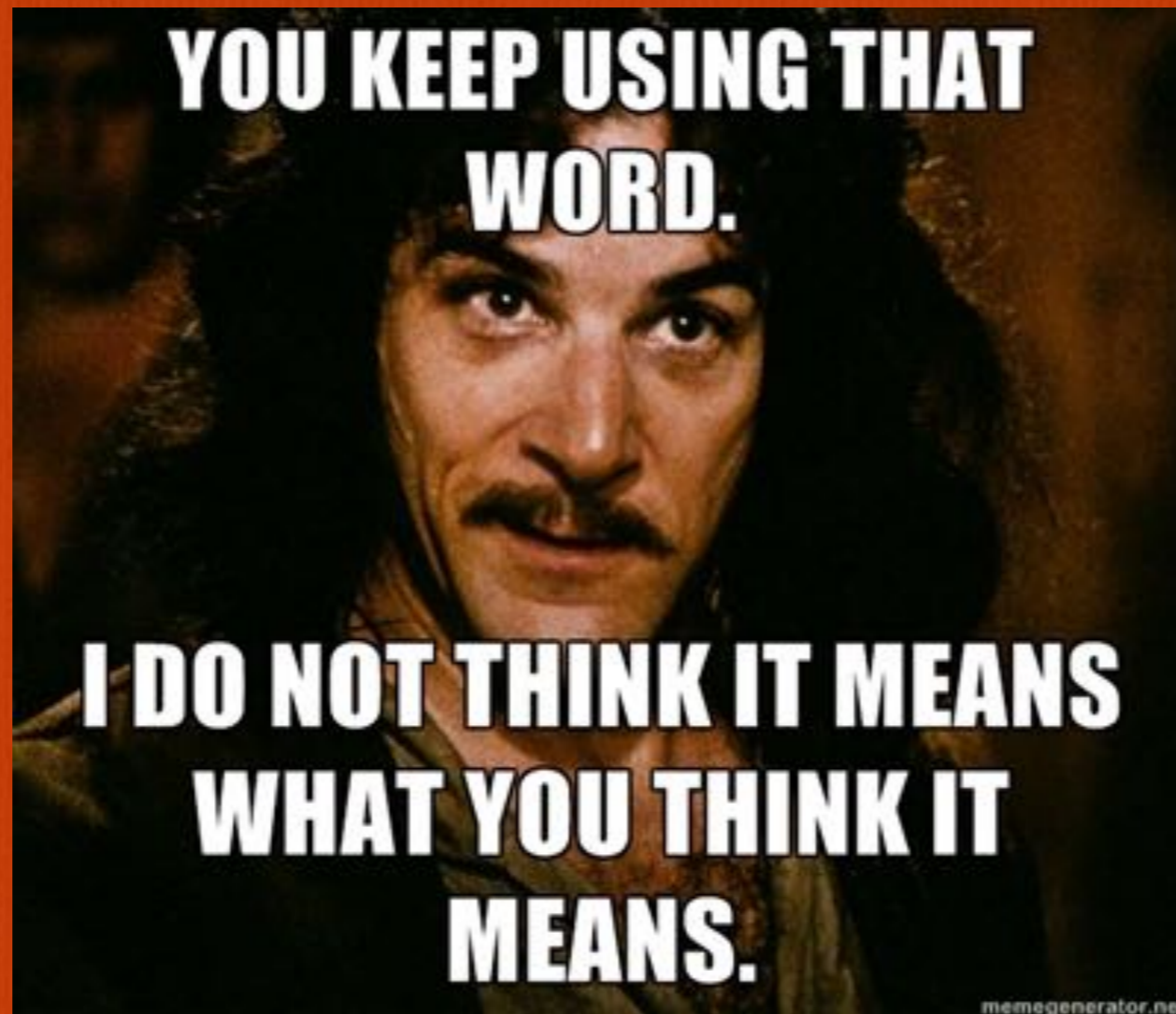
STEM



Science • Technology • Engineering • Math

Why code?





What it isn't

something done in basements nor computer laps



Hopeful parents

What?

how funny! Imagine getting paid to play video games....

Techie State of Mind

TECHIESTATEOFMIND.BLOGSPOT.COM



What it is

a mindset for critically/creatively/collaboratively composing communications

Centres Approach



- Time limited
- Frustration limited
- Delayed gratification
- Opens into "free choice"

Why K?

Too much screen time
Not independent
Too hard
Not enough devices



consuming
vs
creating

tools
vs
toys

Coding state of mind

- Collaboration**
- Community**
- Problem solving**
- Curiosity**

Gradual Guided Release of Responsibility

“Everybody in this country should learn how to program a computer... because it teaches you how to think.”

- Steve Jobs



1:1ish

1 station per student
scaleable

**stations from
this week**



crossy road

**to learn that fails happen and you can learn from your mistakes
(and that technology disruptions happen in many places)**



lego architecture

white noise
& ocd-ish identifier



garageband

zone of frustration & way to connect pieces together



STORE, MOLD,
SHAPE *and* BUILD

kinetic sand

self-regulation tools are essential when coding
(frustration happens....but shouldn't stick)

other self- regulation centers for exploration

magnets
puzzle
putty
blocks
quiet vs loud





keva planks

building possibilities
free play or challenge activities

SNAP CIRCUITS® EXTREME

BY ELENCO®

BUILD OVER **750** EXCITING PROJECTS

SNAP CIRCUITS

Contains over
80 parts!
Create your own
exciting projects!



snap circuits

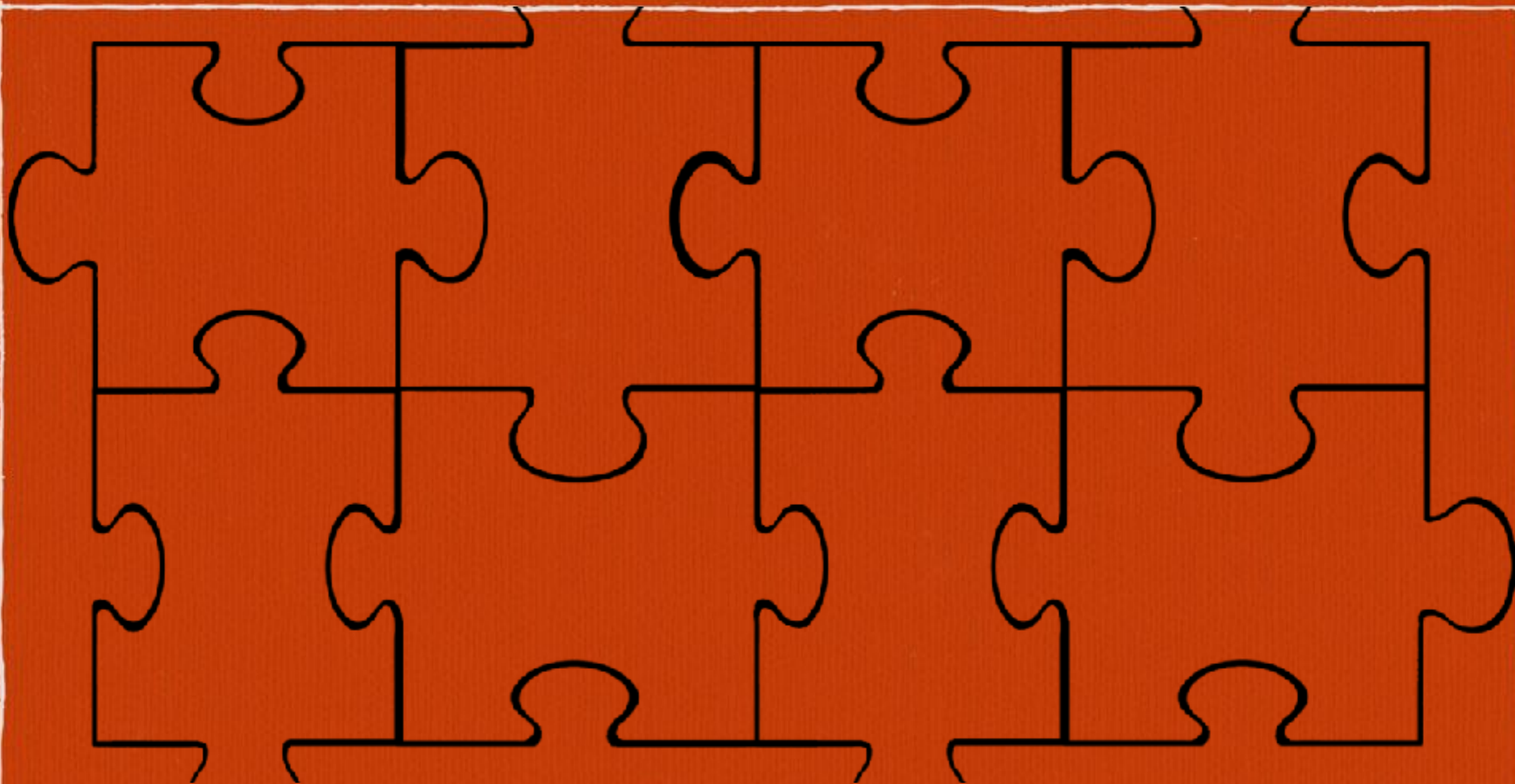
seeing how one set of tools can lead to many end-products

 sphero



sprk & BB8

intro to robotics



puzzles

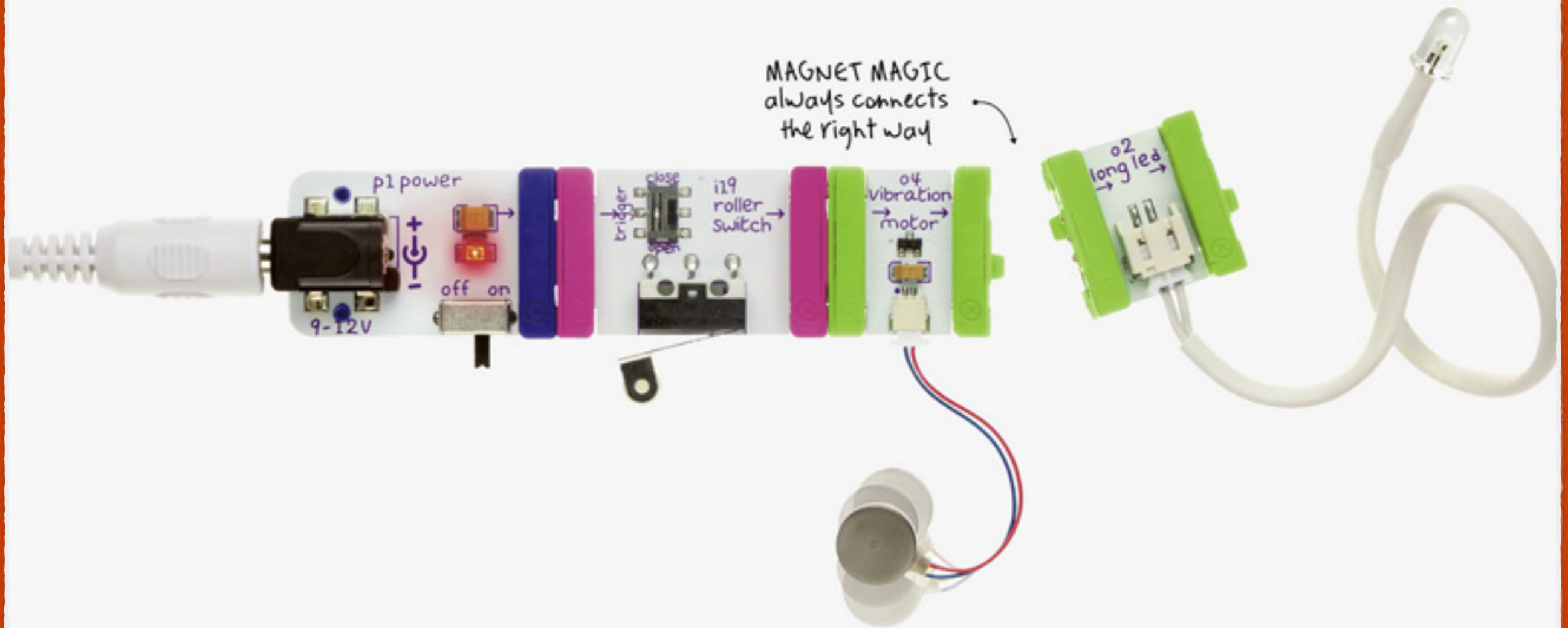
thinking activities (patterns & systems)
plus: make your own



lego (maze or others)

lego mindsets
place a base board on a wall.....

1. START WITH A CIRCUIT



littleBits

sequencing & patterning

get the students asking the questions to uncover their learning



minecraft

wicked awesome



code.org

web based awesomeness



iPad

tetris * angry birds * notes as voice to text



androids

minesweeper * bubble burst * candy crush
- explore -

Task Cards Geometry



Mathemintica

Differentiated Task Cards
Geometry



games

geometry puzzles * math puzzles * picture problems * Book of Qs



3D mazes

360 degree thinking

Daisy the Dinosaur



Lightbot Jr

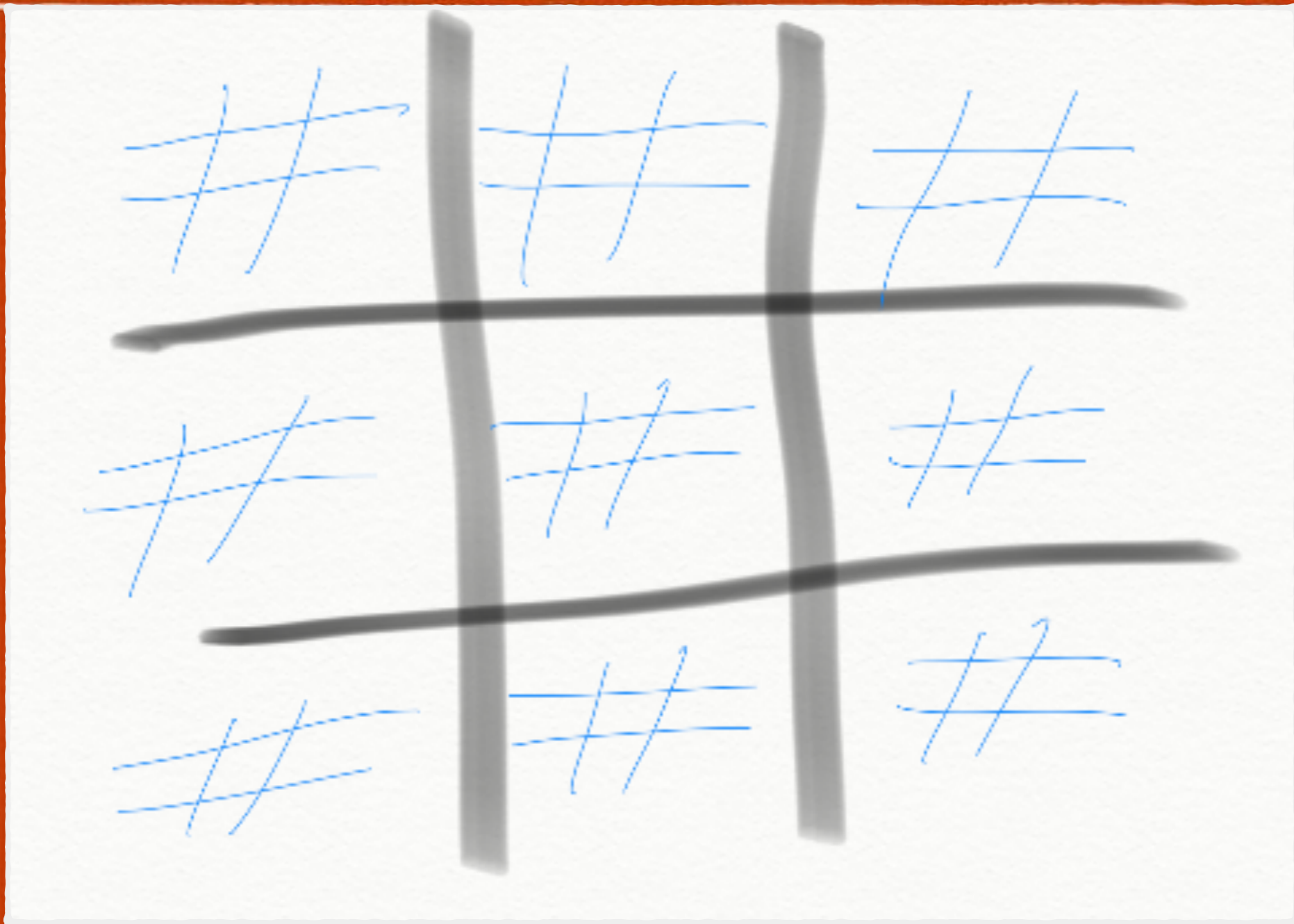


Tynker



coding apps

scratch * scratch jr * hopscotch * swifty * tynker * cargo-bot * lightbot



Super Tic Tac Toe

Lateral thinking with differentiation

A	---	T	-
B	----	U	---
C	-----	V	----
D	----	W	---
E	.	X	-----
F	Y	-----
G	---	Z	----
H	1	-----
I	..	2	-----
J-	3	-----
K	---	4	-----
L	---	5	-----
M	--	6	-----
N	..	7	-----
O	---	8	-----
P	9	-----
Q	---	0	-----
R	---		
S	---		

Secret Code Challenge 2

There are three riddles below written in a secret code. Can you unravel them?

Hint: Each letter of the alphabet has been replaced by a number. All the riddles use the same code. If you are stuck, you can use our Code Buster 1 printable to help break the code.

4	19	10	21	18	6	10	23	22	12	21	26		
15	18	12	13	19	25	8	7	19	22	14	12	8	7
21	8	9	?										

4	10	26	7	20	12	22	8	5	11	26	13	23	
23	12	4	13	7	19	22	8	7	26	18	8	8	
4	18	7	19	12	6	7	14	12	5	10	10	20	7

4	19	26	7	25	22	20	18	18	8	4	18	7	19	29
7	.	22	13	23	8	4	16	7	19	25	7	.		
26	13	23	18	26	8	7	15	13	18	7	?			

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secret codes

thinking code
introduction to binary



k'nex

exploring gears & more



ozobots

new to us - enabling us to have competitions



little codr

new to us - enabling programming to be a game

learn through play



doesn't mean it's easy



- out of order
- had to go bathroom and missed
- what do I do
- where do I go next
- I didn't have enough time
- I had too much time

**COMPUTER
PROGRAMMING IS TO
WHAT THEY DO AS
TYPING IS TO WHAT A
NOVELIST DOES.**

QUOTEHD.COM

Bill Poucher



**“In fifteen years
we’ll be teaching
programming just
like reading and
writing... and
wondering why we
didn’t do it sooner.”**

— Mark Zuckerberg

Anybody can learn!
Start with one #HourOfCode

HOUR
OF
CODE



**“I always did
something I
was a little not
ready to do.
I think that’s
how you grow.”**

— Marissa Mayer, CEO, Yahoo!

Anybody can learn!
Start with one #HourOfCode

HOUR
OF
CODE

**THE GREAT
GROWLING
ENGINE OF
CHANGE -
TECHNOLOGY.**

Alvin Toffler

PICTUREQUOTES.COM

Questions and Shares and Thank You

