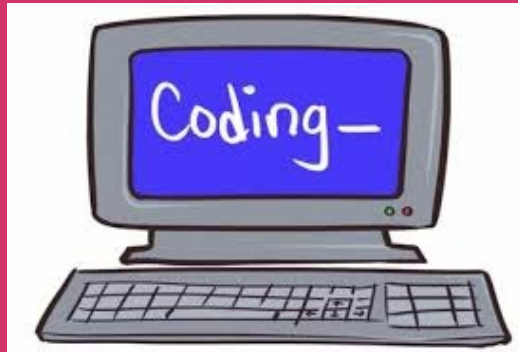# STEMTastic Four

A guide to successfully implementing a technology program for grades Pre K through Adult Education.

Educational and Professional Background

My name is Angela Tackett.

I have a Master of Education from Concordia University at Austin

Certified teacher since 2007.

Currently a social studies, economics, and computer science teacher at the Excel Center. It is an adult education charter school for Goodwill of Central Texas

Taught in Harmony Public Schools for 6 years.

Provided pregnancy education to high school students.

Supervised the online STAAR L and TAKS tests for Pearson.

Importance of STEAM

Students must understand that STEAM is in all aspects of their lives.
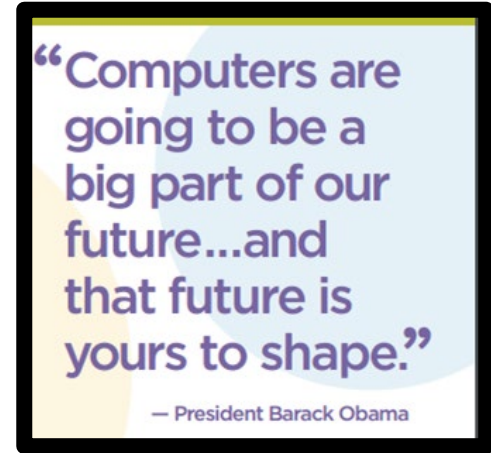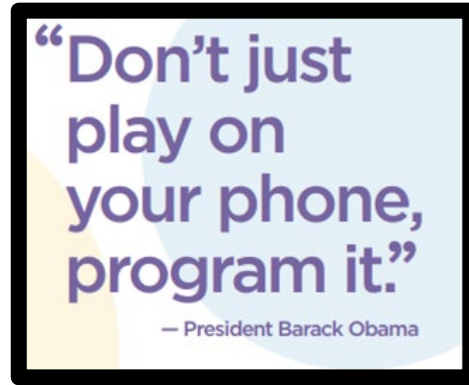
Class philosophy is based upon…

Science

Technology

Engineering

Art

Math

"Don't just play on your phone, program it."
— President Barack Obama

"Computers are going to be a big part of our future…and that future is yours to shape."
— President Barack Obama

Division Within STEMTastic Four Classes

Educational Videos

Typing and Phonics Activities

Mouse and Arrow/Spacebar Skills

Computer Science

Coding

Engineering

Educational Videos-Creates a virtual learning environment.

Sci Show Kids

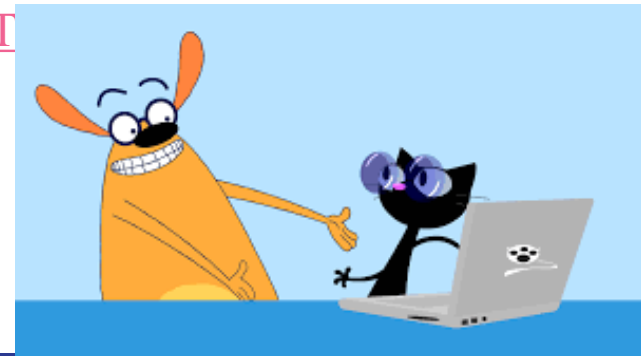https://www.youtube.com/watch?v=8wHJjLMnikU

PBS Learning Media-STEAM Videos

https://klru.pbslearningmedia.org/resource/74528e28-66ff-4abc-bec3-801c22c1ef50/neil-armstrong-pbs-world-explorers/#.WT

PBS Kids-Digital Media

https://www.pbslearningmedia.org/

Educational Videos

Brainpop-Computer Viruses

https://www.brainpop.com/technology/computerscience/computerviruses/

Faux Paw The Techno Cat

https://www.youtube.com/watch?v=GHkM2nddg7I

Mater's Tall Tales-Moon Mater

https://www.youtube.com/watch?v=Fc8os0o_Veo&t=94s

Howdy kids! I'm your friend, Cursor. Remember, the Internet is like a big city with great places to go, but you have to be careful. That's why we have three rules for Internet safety:

Keep Safe • Keep Away • Keep Telling

I **Keep Safe** my personal information—all of it! I never give my real name, address, phone number, the name of my school, or a picture of myself to anyone online.

I **Keep Away** from Internet strangers— no matter what they tell me, because I have no way of knowing who they really are. I don't talk with them online, and I never meet them face-to-face.

I **Keep Telling** my parents or a trusted adult about everything I see on the Internet. I always tell them when something makes me uncomfortable.

. . . So long friends.

Educational Videos

Code.org Educational Videos

https://www.youtube.com/watch?v=mCq8-xTH7jA

Short Answer Discussion Questions-Email me for additional lessons
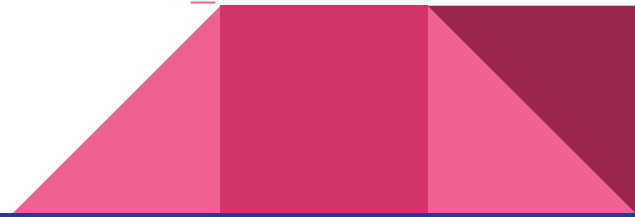
https://docs.google.com/document/d/1_sbTKnNoDnym_ZJ4OQXAIEg-logBUG-IrLRRSdQ--6A/edit?usp=sharing

Maker's Series - Ayanna Howard

https://www.youtube.com/watch?v=7Z0dwptemn0&feature=emb_title

Women In Tech Lesson Plans

https://girlswhocode.com/women-in-tech-lessonplans/

Typing and Phonics Activities- Impact on DCD

Keyboarding helps students and adults with learning disabilities strengthen reading, spelling and phonics skills.

Dyspraxia is a condition known as Developmental Coordination Disorder (DCD).for example, is defined as A childhood developmental disorder marked by poor balance and hand-eye coordination, muscle weakness, and difficulty speaking.

Doctors treating the developmental disorder have found that keyboarding provides an opportunity to deal with the pain that comes with having to hold a pencil to write.

Developmental Coordination Disorder (DCD) Fact Sheet

Typing and Phonics Activities-Impact on Dyslexia

Dyslexic effects how the brain processes information. Encountering high-frequency words through keyboarding helps to train dyslexic students to recognize words by sight. It aides in advancing reading skills such as reading, spelling, and vocabulary. Muscles within an individual's memory allow spelling exercises, for example, to become a series of patterns on the keyboard. Vocabulary and reading improve with touch typing and ultimately dyslexic students become better writers.

Typing and Phonics Activities-Impact on English Language Learners

ABCYA.COM-Cup Stack Typing

http://www.abcya.com/cup_stack_typing_game.htm

ABCYA.COM-Keyboard Invasion

http://www.abcya.com/keyboard_invasion.htm

ABCYA.COM-Typing Race

http://www.abcya.com/typing_race_cars.htm

Typing and Phonics Activities

Nitro Type

https://www.nitrotype.com/

Dance Mat Typing

http://www.bbc.co.uk/guides/z3c6tfr

TypeTastic

https://typetastic.com/

Digipuzzle Typing

https://www.digipuzzle.net/education/typing/index.htm

Typing and Phonics Activities

Typing.com

https://www.typing.com/

Typing.com also offers coding and digital literacy lessons free of charge.

Typing Club

https://www.typingclub.com/signup.html

Digipuzzle Typing

https://www.digipuzzle.net/education/typing/index.htm

Typing and Phonics Activities-What is a Key Bee?

Students in Oklahoma took their love of keyboarding to the next level in what they called a Key Bee. Over the course of a year, students tracked their progress within Typing.com. 3 7 participating schools tested their keyboarding skills against their peers. Teachers were provided an assessment rubric. School champions were invited to compete in the finals of the Key Bee. A full description of the program can be found at the link below.

http://city-sentinel.com/2019/05/oklahoma-city-public-schools-students-gain-college-and-career-ready-typing-keyboarding-skills/?fbclid=IwAR2FJgxx8veE0B9djpPRskTICqTBc0kl6IysBCiReNKQt3r_KRDaD1cMA6U

Mouse, Arrow, and Spacebar Skills Students can learn their numbers, letters, and the overall importance of reading.

Starfall

http://www.starfall.com/n/level-k/index/load.htm?f

Teach Your Monster to Read

https://www.teachyourmonstertoread.com/games/tm1/demo

Clifford Phonics Activities

http://teacher.scholastic.com/clifford1/flash/phonics/index.h

Mouse, arrow, and spacebar skills

Literactive-Hanging Monkeys

http://www.literactive.com/Download/live.asp?swf=story_files/Hanging_Monkeys_US.swf

Stacky Stack-Lego Engineering

https://www.lego.com/assets/FranchiseSites/Portal/Stacky-Stack/v3/index.html

Paw Patroller - Air Patroller

http://www.nickjr.com/paw-patrol/games/flying-rescue-adventur

Mouse, arrow, and spacebar skills

Typing.com - Tech Readiness

Parts of the Computer

Log in through Google at

the link below.

https://www.typing.com/student/lessons
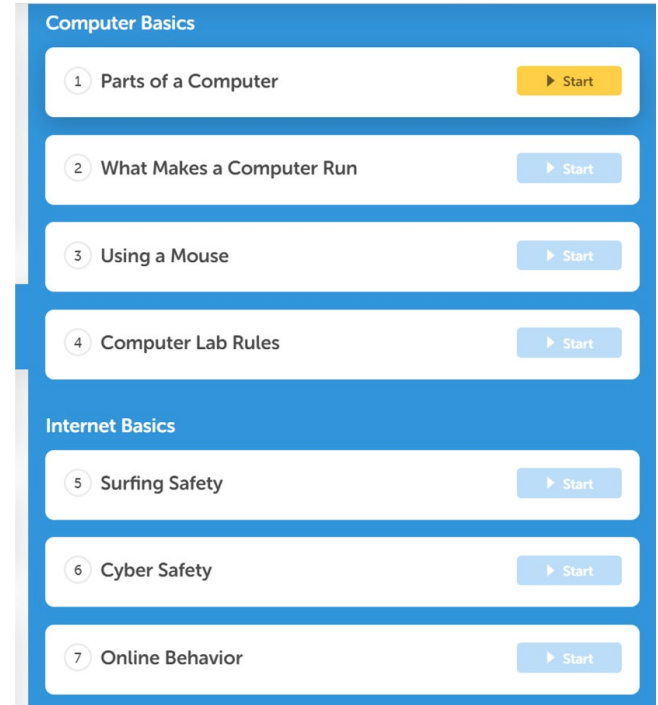
Coding-The act of determining a pattern and/or steps.

coding

/ˈkōdiNG/ 🔊

verb

1. The process of making dreams come to life via specific arrangements of data or instructions, often done while snacking on chips and/or take-out food.

2. The process of blueprinting anything you can imagine, so that it can exist in the real world.

3. The way of the future.

Algorithm Challenge
Pair off in groups of two.

Code the steps to make a peanut butter and jelly sandwich.

Your entire life and coding are similar in that they are a series of steps.

Vocabulary for the Day

Computer program   a series of steps that the computer can follow

algorithm   - a list of steps or directions

Family activity about making a PB&J Sandwich

https://www.youtube.com/watch?v=FN2RM-CHkuI&t=2s

code - written instructions in a special language the computer understands to perform the algorithm

Take a handout. Happy coding!!

Coding-Unplugged assignments to be completed without a computer.

Hour of Code-Move It Move It

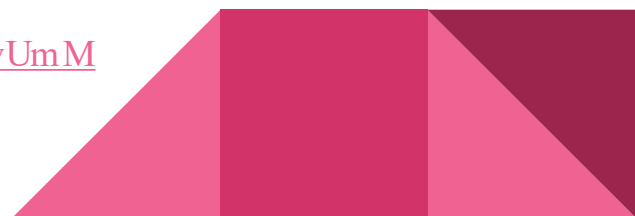https://studio.code.org/s/course1/stage/2/puzzle/1

Hour of Code-Get Loopy

https://studio.code.org/s/course1/stage/12/puzzle/1

Hour of Code-Binary Bracelets

https://studio.code.org/s/course2/stage/14/puzzle/1

Cars Coding and Engineering

https://drive.google.com/drive/folders/0B6lxsfgyXkMERmhQY1JZMVcwUmM

Brainpop and Tynker Coding Assignments

Tynker Developed Coding Modules

Go to T for Tynker

clever.com

https://www.brainpop.com/games/game-finder/?

Run Marco Run

https://www.brainpop.com/games/runmarco/

https://www.allcancode.com/web

Wonder Woman-Made With Code

https://www.madewithcode.com/projects/wonderwoman

Legos Coding & Mosaic Art - Lightbot Coding

Bits and Bricks Coding-Students learn about computer viruses while coding their robot

Lego (Robots and Art-Can be combined with a STEAM lesson about engineering and art.)

http://www.lego.com/en-us/disneyprincess/games/mosaic-game-4ab8c48ffa7b4be0b961df40132538ac

https://www.lego.com/en-us/campaigns/bits-and-bricks/v2

Lightbot Coding (Robots - Can be combined with a robotics or engineering lesson.)

http://lightbot.com/flash.html

Hour of Code Resources—Link at the Teacher's Notes for solutions.

Hour of Code Website

https://hourofcode.com/us/learn

Moana Coding-Can be combined with a STEM lesson about digital animation.

http://partners.disney.com/hour-of-code?cds&cmp=vanity%7Cnatural%7Cus%7Cmoonshoc%7C

Minecraft Coding

https://code.org/minecraft

The Foos, Bot Logic Coding, and Mars Rover Coding

The Foos (Computer Science - Can be combined with a kindergarten lesson regarding STEM.)

http://thefoos.com/hour-of-code/

Bot Logic Coding (Coding and Computer Science - Can be used to begin Lego and NASA Coding.)

http://botlogic.us/#sthash.UvBD8vqU.dpbs

Mars Rover Coding

https://www.nasa.gov/audience/foreducators/robotics/home   VER.html#
kNxgrLrd

Engineering Options

3D Model Art

https://www.digipuzzle.net/education/games/index.htm

Tiny Turtle Tower Challenge

https://docs.google.com/document/d/1N-y6JTL8lzhSCg9BsYhAOJ8C460hPQsn-Do36zM3MCw/edit

Boat Float Challenge

https://www.centexeweek.org/activities/boat-float

Odd Squad-Down The Tubes

https://pbskids.org/oddsquad/games/downthetubes/

Additional Tech Resources Within Austin

Attend the Girl Start STEM studio and Mini Planetarium

http://www.girlstart.org/our-programs/starry-nights

Microsoft Youthspark Coding Events

https://www.microsoft.com/en-us/store/locations/events-for-students

Apple Store-Domain-Sphero Robotics

https://www.apple.com/retail/domainnorthside/

Latinitas

https://latinitasmagazine.org/

ChickTech Austin

https://austin.chicktech.org/
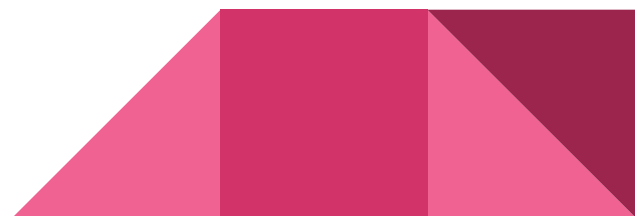
Digital Storytelling Tiny Tots Resources

The DISTCO competition in sponsored by Harmony and provides a yearly digital storytelling competition for students and teachers.

http://www.distco.org/

Lessons plans for teaching copyright can be found at the link below.

https://www.teachingcopyright.org/

Links to the software can be found below.

http://digitalstorytelling.coe.uh.edu/page.cfm?id=22&cid=22#

Use the Free Music Archive to learn about music.

http://freemusicarchive.org/curator/video

Scratch Coding

Scratch Cards provide an innovative way to learn Scratch

https://scratch.mit.edu/info/cards/

Scratch Junior

Scratch Ed Community

http://www.scratchjr.org/

http://scratched.gse.harvard.edu/

Coding 4 Texas

Scratch Educator Resources
https://platform.republiccs.org/

https://scratch.mit.edu/educators#resources

Scratch Day

Scratch Coding

1-Google Animation Project-Women's History

https://scratch.mit.edu/projects/291551294

2-Animate A Name Project

https://scratch.mit.edu/projects/327916441/

3-MLK Jr. Timeline Project

https://scratch.mit.edu/projects/281625866/

4-Includes Flocabulary MLK video

https://www.youtube.com/watch?v=SkP7FEhq52M

5-Epic Books MLK Collection

https://www.getepic.com/app/user-collection/5728888

Kahoot-Computer Science and Coding Assessment Tool

Create a Computer Science Kahoot

Jumble Kahoot

https://create.kahoot.it/login
https://getkahoot.com/blog/jumble-is-live

Famous Robots Kahoot

https://play.kahoot.it/#/k/e13bb8e3-75c8-44f0-9c22-c64fb8cf5911

Scratch Kahoot

https://play.kahoot.it/#/k...46-3f4b5ed30a12

Teacher Opportunities

Digital Learning Day is on Wednesday, February 17th. Its website provides numerous online resources to participate in the event.

http://www.digitallearningday.org//site/Default.aspx?PageID=334

My Hero Project

http://myhero.com/

Teachers can apply for the PBS LearningMedia Digital Innovator Program.

http://pbslm-marketing.lunchbox.pbs.org/

A copy of my application video is below.

https://www.youtube.com/watch?v=XJWxqgt7j_E

Additional Professional Development

Finch Robot Loan Program loans computer science and robot resources to schools around the country.

Information regarding the Finch Robot Loan Program can be found below.

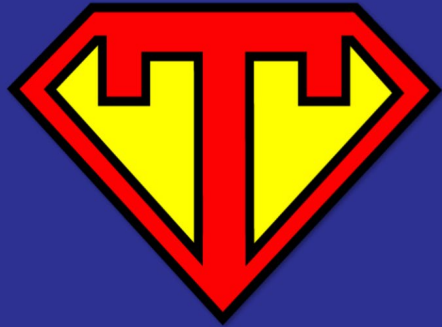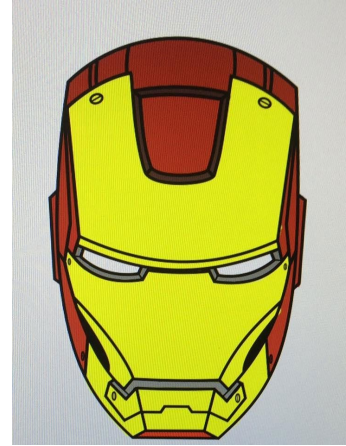http://www.finchrobot.com/finch-robot-loan-program

Kahoot Certification

https://kahoot.com/certified/?deviceId=da32c4fe-887e-4b29-b2f5-bc169cb48522R&sessionId=1575525604075
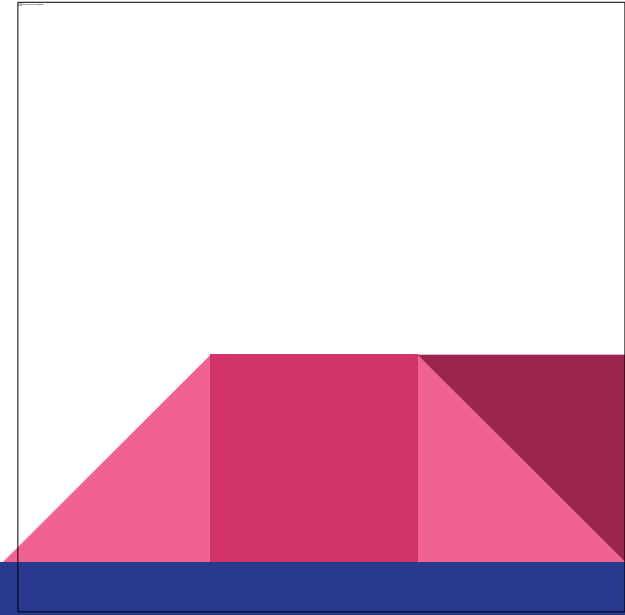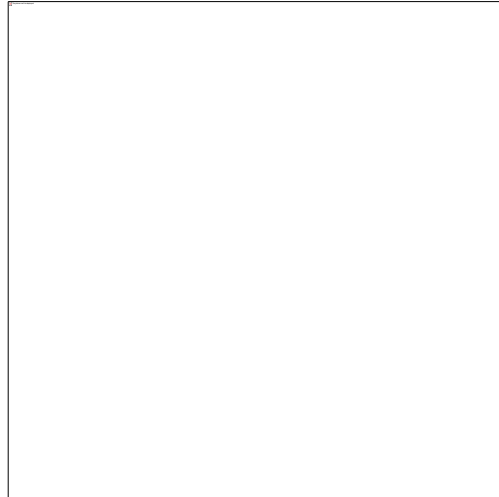
Vocabulary.com Certification

https://www.vocabulary.com/help/webinars/

Lasting Images

Contact Information

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Thank you so much for viewing my presentation!!!