

TEEN TECH WEEK 2019



COMPUTATIONAL THINKING

Suggested Grades: Pre-reader – Grade 5

“Make Your Own Kodable Mazes”

<https://hourofcode.com/makelevels>



The most popular pre-reader app now includes a digital Maker Space! Make levels, design games, or build characters. Choose your activity and start creating with Kodable! Featuring JavaScript for upper elementary.

Skills developed through Computational Thinking:

<p>New Words!</p> <p>Decompose</p> <p>Say it with me: De-COM-POSE</p> <p>Break a problem down into smaller pieces</p>	<p>Pattern Matching</p> <p>Say it with me: Pat-ern Mat-ching</p> <p>Finding similarities between things</p>
<p>Abstraction</p> <p>Say it with me: Ab-STRAc-shun</p> <p>Pulling out specific differences to make one solution work for multiple problems</p>	<p>Algorithm</p> <p>Say it with me: Al-go-Ri-thm</p> <p>A list of steps that you can follow to finish a task</p>

TEEN TECH WEEK 2019

COMPUTATIONAL THINKING



Suggested Grades: 2 +

"Minecraft Hour of Code"

<https://hourofcode.com/mchoc>



Minecraft is back for the Hour of Code with a brand new activity! Journey through Minecraft with code.

Skills developed through Computational Thinking:

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Computational Skills Definition taken from www.code.org

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COMPUTATIONAL THINKING



Suggested Grades: 2 +

"Animate an Adventure Game"

<https://hourofcode.com/scratchadventure>



Send your favorite Cartoon Network characters on a quest, from the farthest reaches of the universe, to the edge of Craig's creek. Unlock secret treasures and discover new characters while creating an adventure game.

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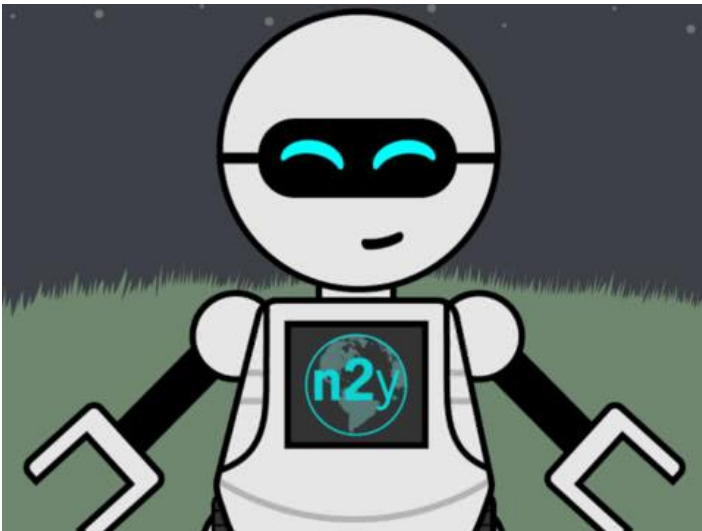
COMPUTATIONAL THINKING



Suggested Grades: Pre-reader +

"Bitt Botts"

<https://hourofcode.com/n2y>



In these printable activities, students can help a little robot named Bitt Bott explore different landforms on Earth. Students give Bitt Bott simple directions by choosing and circling appropriate directional arrows. Each of the six activities includes simple directions that are supported with symbols from the n2y® SymbolStix PRIME® collection. The symbols help

non-readers and beginning readers understand and follow the directions.

Skills developed through Computational Thinking:

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TEEN TECH WEEK 2019

COMPUTATIONAL THINKING



Suggested Grades: 6 +

"Vid-Code the News"

<https://hourofcode.com/vidnews>



It's the HOC News! Videos and graphics are all about tech, diversity, kids, and coding. Finished projects can be uploaded to school website as the report on the HOC itself. Teachers can encourage students to use the news to report on what they learned, or a statistic for their school. "Breaking News: 400 students at Roosevelt

participate in the Hour of Code"

Skills developed through Computational Thinking:

<p>New Words!</p> <h3>Decompose</h3> <p>Say it with me: De-COM-POSE</p> <p>Break a problem down into smaller pieces</p>	<h3>Pattern Matching</h3> <p>Say it with me: Pat-ern Mat-ching</p> <p>Finding similarities between things</p>
<h3>Abstraction</h3> <p>Say it with me: Ab-STRAc-shun</p> <p>Pulling out specific differences to make one solution work for multiple problems</p>	<h3>Algorithm</h3> <p>Say it with me: Al-go-ri-thm</p> <p>A list of steps that you can follow to finish a task</p>

TEEN TECH WEEK 2019

COMPUTATIONAL THINKING



Suggested Grades: 2 +

"Create Your Own Google Logo"

<https://hourofcode.com/googlelogo>



Use your creativity and imagination to bring the Google logo to life using code. Make the letters dance, tell a story or create a game. With Scratch and CS First, anyone can become a designer and programmer for the day!

Skills developed through Computational Thinking:

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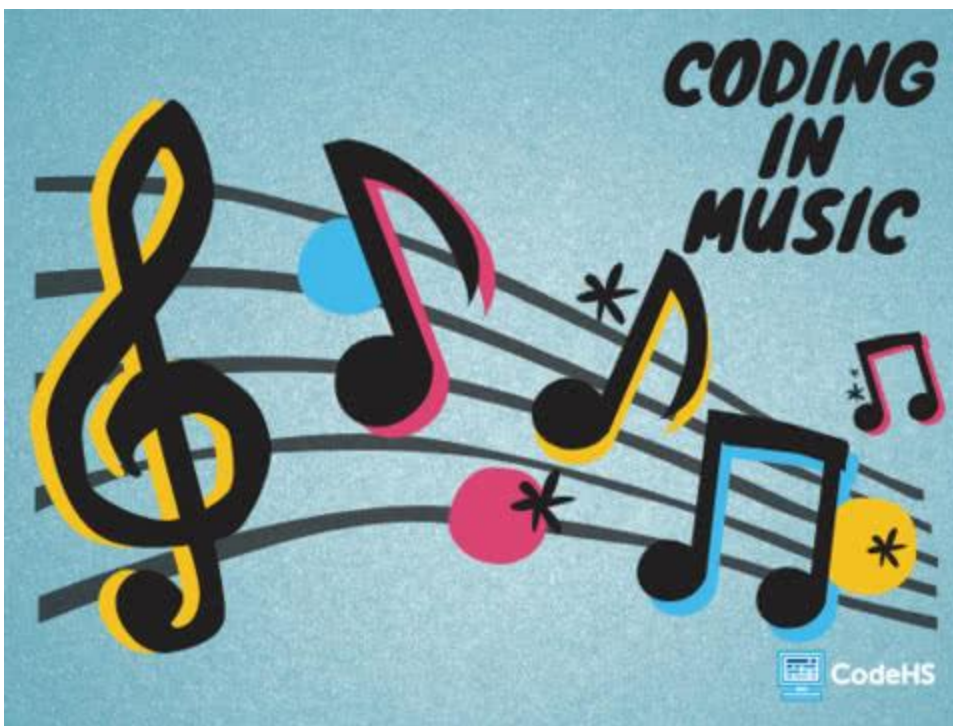
COMPUTATIONAL THINKING



Suggested Grades: 6 +

"Minecraft Hour of Code"

<https://hourofcode.com/codehsmusic>



Students explore how coding is used in music creation by building their own dynamic eight-count beats and patterns with JavaScript blocks!

Skills developed through Computational Thinking:

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TEEN TECH WEEK 2019

COMPUTATIONAL THINKING



Suggested Grades: 9 +

"Build Your Own Apps"

<https://hourofcode.com/thunkableapps>



Learn how to build your own apps with blocks-based coding!

Skills developed through Computational Thinking:

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TEEN TECH WEEK 2019

COMPUTATIONAL THINKING



Suggested Grades: 9 +

"Flatverse"

<https://hourofcode.com/flatverse>



Learn the essentials to programming a game where it's eat or be eaten!

Skills developed through Computational Thinking:

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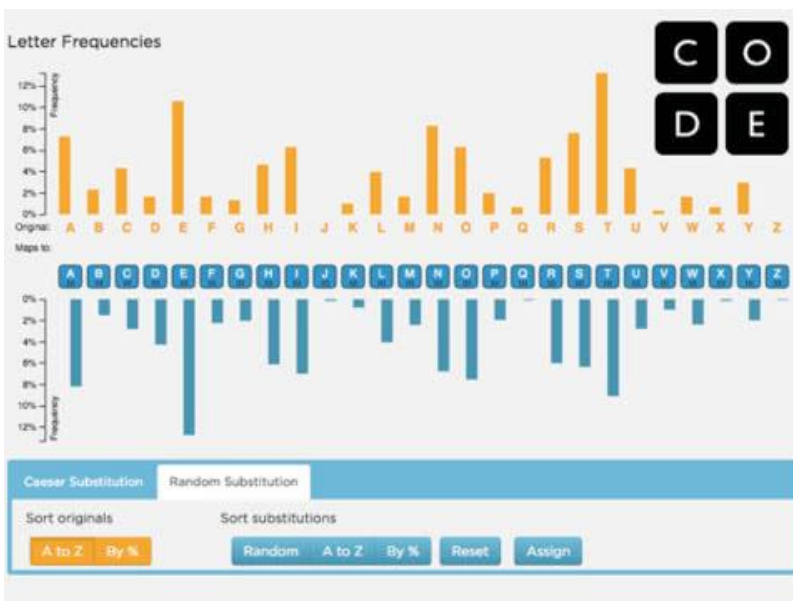
COMPUTATIONAL THINKING



Suggested Grades: 9 +

“Simple Encryption”

<https://hourofcode.com/encryption>



Students are introduced to the need for encryption and simple techniques for breaking (or cracking) secret messages. They try their own hand at cracking a message encoded with the classic Caesar cipher and also a Random Substitution Cipher. Students should become well-acquainted with the need for secrecy when sending information over the Internet,

and that in an age of powerful computational tools, techniques of encryption will need to be more sophisticated.

Skills developed through Computational Thinking:

A diagram on an orange background showing four computational thinking skills arranged in a 2x2 grid. Each skill is underlined and includes a mnemonic and a brief description.

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- Pattern Matching**: Say it with me: Pat-ern Mat-ching. Finding similarities between things.
- Abstraction**: Say it with me: Ab-STrac-shun. Pulling out specific differences to make one solution work for multiple problems.
- Algorithm**: Say it with me: Al-go-ri-thm. A list of steps that you can follow to finish a task.

TEEN TECH WEEK 2019

COMPUTATIONAL THINKING



Suggested Grades: 6 +

"Let's Build a Drone"

<https://hourofcode.com/nclabdrone>



Build a drone frame in ten steps with NCLab's 3D Modeling app. The drone frame can be 3D printed and used to build a real working drone! Each step includes tutorials and instructions. Complete the code and immediately see the results. 3D Modeling is a vital part of 21st century engineering, manufacturing, art, science, medicine, and more. This is

a great way to get started!

Skills developed through Computational Thinking:

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TEEN TECH WEEK 2019

COMPUTATIONAL THINKING



Suggested Grades: 6-8

"Gumball's Coding Adventure"

<https://hourofcode.com/gumadventure>



In the Amazing World of Gumball episode "The Signal," a glitch affects how the characters relate to each other. In this activity, continue the story by making your own glitch and imagining how Gumball and his friends would react to it.

Google CS First

SCRATCH

CN
CARTOON NETWORK

Skills developed through Computational Thinking:

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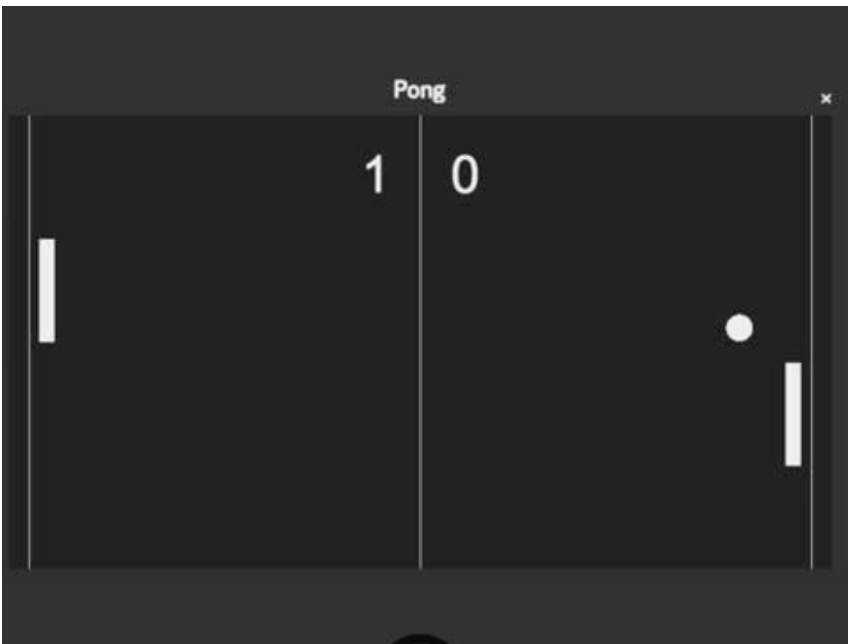
COMPUTATIONAL THINKING



Suggested Grades: 6-8

"Kano Computing – Make Pong"

<https://hourofcode.com/kanopong>



Learn to code by building this classic arcade game in an hour!

Skills developed through Computational Thinking:

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COMPUTATIONAL THINKING



Suggested Grades: 9+

"Wonder Woman"

<https://hourofcode.com/googleww>



In this activity, you'll code three unique scenes from the film using Blockly, an introductory coding language, to help Wonder Woman navigate obstacles and reach her goal. You'll use the power of sequences, variables, loops and conditionals to help Diana train against her opponents.

Skills developed through Computational Thinking:

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TEEN TECH WEEK 2019

COMPUTATIONAL THINKING



Suggested Grades: All Ages

"Block Island"

<https://hourofcode.com/boxisland>



Take a trip on Box Island and collect all the stars! Box Island is a beautiful mobile coding game that takes kids on an exciting adventure on the charming island. In this tutorial you will learn the basics of algorithms, sequences, loops and conditionals!

Skills developed through Computational Thinking:

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COMPUTATIONAL THINKING



Suggested Grades: 9+

"Build a Flappy Birds Clone with hyperPad"

https://hourofcode.com/hp_flappy



Learn logical thinking and programming concept by creating your own Flappy Birds style game on hyperPad.

Skills developed through Computational Thinking:

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COMPUTATIONAL THINKING



Suggested Grades: Pre-Reader to Grade 5

“codeSpark Academy with The Foos: Create Games”

<https://hourofcode.com/codesparkcreate>



Ever wanted to design and code your own video game? Choose from two game kits that guide you through creating and coding a Mario-style video game using codeSpark Academy's no words interface. Beginner coders and pre-readers welcome!

Skills developed through Computational Thinking:

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