# Coding and STEAM Tools for Kids, Teachers, Parents

## Kindergarten

## First Grade
- Hopscotch [https://www.gethopscotch.com/](https://www.gethopscotch.com/)
  - Bitsbox [https://bitsbox.com/](https://bitsbox.com/)

## Second Grade
- Hopscotch [https://www.gethopscotch.com/](https://www.gethopscotch.com/)
  - Bitsbox [https://bitsbox.com/](https://bitsbox.com/)

## Third Grade
- Hopscotch [https://www.gethopscotch.com/](https://www.gethopscotch.com/)
  - Bitsbox [https://bitsbox.com/](https://bitsbox.com/)

## Fourth Grade
- Hopscotch [https://www.gethopscotch.com/](https://www.gethopscotch.com/)
  - Bitsbox [https://bitsbox.com/](https://bitsbox.com/)

## Fifth Grade
- Hopscotch [https://www.gethopscotch.com/](https://www.gethopscotch.com/)
  - Bitsbox [https://bitsbox.com/](https://bitsbox.com/)

## Middle School
- Hopscotch [https://www.gethopscotch.com/](https://www.gethopscotch.com/)
  - Bitsbox [https://bitsbox.com/](https://bitsbox.com/)

## High School
- Hopscotch [https://www.gethopscotch.com/](https://www.gethopscotch.com/)
  - Bitsbox [https://bitsbox.com/](https://bitsbox.com/)

## Apps
- Hopscotch [https://www.gethopscotch.com/](https://www.gethopscotch.com/)
  - Bitsbox [https://bitsbox.com/](https://bitsbox.com/)

## Board, Card, and Puzzle Games (Online and Tabletop)
- Botlogic [http://botlogic.us/](http://botlogic.us/)
- Lightbot Level 1 [https://lightbot.com/](https://lightbot.com/)
- Lightbot Levels 1-2
- Lightbot All Levels
- Giggle Chips [http://www.gigglechips.co/](http://www.gigglechips.co/)
- Coding Farmers [http://www.mathandcoding.org/codingfarmers.html](http://www.mathandcoding.org/codingfarmers.html)
- Coding is Good (Python card game) [http://www.mathandcoding.org/codingisgood.html](http://www.mathandcoding.org/codingisgood.html)

## Other Resources
- Tynker [https://www.tynker.com/](https://www.tynker.com/)
## Coding and STEAM Tools for Kids, Teachers, Parents

### Kindergarten
- Erase All Kittens [https://eraseallkittens.com/](https://eraseallkittens.com/)

### First Grade

### Second Grade

### Third Grade

### Fourth Grade

### Fifth Grade

### Middle School

### High School

### Block/Visual Languages
- **Turtle Art** [http://turtleart.org/](http://turtleart.org/)
- **Turtle Academy** [http://www.turtleacademy.com/](http://www.turtleacademy.com/)
- **Scratch Jr.** [https://www.scratchjr.org/](https://www.scratchjr.org/)
- **Scratch** [https://scratch.mit.edu/](https://scratch.mit.edu/)
- **Blockly** [https://developers.google.com/blockly/](https://developers.google.com/blockly/)
- **Snap** [http://snap.berkeley.edu/](http://snap.berkeley.edu/)
- **Stencyl** [http://stencyl.com/](http://stencyl.com/)
- **mblock** [http://www.mblock.cc/](http://www.mblock.cc/)
- **Ardublock** [http://blog.ardublock.com/](http://blog.ardublock.com/)

### Circuit Board Computers
- **Arduino** [https://www.arduino.cc/](https://www.arduino.cc/)
- **Beagle Board** [https://beagleboard.org/](https://beagleboard.org/)
- **micro:bit** [https://www.microbit.co.uk/](https://www.microbit.co.uk/)
- **CHIP** [https://nextthing.co/](https://nextthing.co/)
- **cubit** [http://cubit.cc/](http://cubit.cc/)
- **Onion Omega** [https://onion.io/product/omega/](https://onion.io/product/omega/)
- **Curiosity Development Board** [http://www.microchip.com/promo/curiosity](http://www.microchip.com/promo/curiosity)
- **Minnow Board** [http://www.minnowboard.org/](http://www.minnowboard.org/)
- **Table of Boards** [http://makezine.com/comparison/boards](http://makezine.com/comparison/boards)

### Circuit Board Kits (Plug and Play)
- **LightUp** [http://www.lightup.io/](http://www.lightup.io/)
- **littleBits** [http://littlebits.cc/](http://littlebits.cc/)
- **Makey Makey** [http://makeymakey.com/](http://makeymakey.com/)
- **SAM Labs** [https://www.samlabs.com/](https://www.samlabs.com/)
- **Snap Circuits** [http://www.snapcircuits.net/](http://www.snapcircuits.net/)
- **Microduino** [https://www.microduino.cc/](https://www.microduino.cc/)
- **Kano** [https://kano.me](https://kano.me)
- **Piper** [https://playpiper.com/](https://playpiper.com/)
# Coding and STEAM Tools for Kids, Teachers, Parents

## Circuits, Electronics, Jewelry, and Fabrics

<table>
<thead>
<tr>
<th>Kindergarten</th>
<th>First Grade</th>
<th>Second Grade</th>
<th>Third Grade</th>
<th>Fourth Grade</th>
<th>Fifth Grade</th>
<th>Middle School</th>
<th>High School</th>
</tr>
</thead>
</table>

## Curriculum

| Kodable https://www.kodable.com/ |
| K12CS https://k12cs.org/ |
| CSTA https://csta.acm.org/Curriculum/sub/CurResouces.html |
| Code.org https://code.org/ |
| Computing at School https://www.computingatschool.org.uk/ |
| ISTE http://www.iste.org/standards/tools-resources/essential-conditions/curriculum-framework |
| C-STEM http://c-stem.ucdavis.edu/curriculum/ |
| Code for Life https://www.codeforlife.education/ |
| Cambridge GCSE Computing Online http://www.cambridgegcsecomputing.org/ |
| Common Sense Media Digital Citizenship https://www.commonsensemedia.org/educators/scope-and-sequence |
| Computer Science Unplugged http://csunplugged.org/ |
| Barefoot Computing http://barefootcas.org.uk/ |

## Robots

<p>| Bee-Bot <a href="https://www.bee-bot.us/">https://www.bee-bot.us/</a> |
| Blue-Bot <a href="https://www.bee-bot.us/bluebot.html">https://www.bee-bot.us/bluebot.html</a> |
| Cubetto <a href="https://www.primotoys.com/">https://www.primotoys.com/</a> |
| Coding by Osmo <a href="https://www.playosmo.com/en/coding/">https://www.playosmo.com/en/coding/</a> |
| Cubelets <a href="http://www.modrobotics.com/cubelets/">http://www.modrobotics.com/cubelets/</a> |
| Puzzlets <a href="https://www.digitaldreamlabs.com/puzzlets/">https://www.digitaldreamlabs.com/puzzlets/</a> |
| Vortex Robot <a href="http://www.dfrobot.com/vortex/">http://www.dfrobot.com/vortex/</a> |
| Dash and Dot <a href="https://www.makewonder.com/">https://www.makewonder.com/</a> |
| Finch <a href="http://www.finchrobot.com/">http://www.finchrobot.com/</a> |
| Hummingbird <a href="http://hummingbirdkit.com">http://hummingbirdkit.com</a> |
| Kibo <a href="http://kinderlabrobotics.com/">http://kinderlabrobotics.com/</a> |
| Sparki <a href="http://arcbotics.com/products/sparki/">http://arcbotics.com/products/sparki/</a> |
| Thymio <a href="https://www.thymio.org/">https://www.thymio.org/</a> |
| Tickle <a href="https://tickleapp.com/">https://tickleapp.com/</a> |
| Sphero <a href="http://www.sphero.com/">http://www.sphero.com/</a> |
| Little Robot Friends <a href="http://www.littlerobotfriends.com/">http://www.littlerobotfriends.com/</a> |
| mBot <a href="http://learn.makeblock.cc/mbot/">http://learn.makeblock.cc/mbot/</a> |
| Ozo <a href="http://ozobot.com/">http://ozobot.com/</a> |</p>
<table>
<thead>
<tr>
<th>Kindergarten</th>
<th>First Grade</th>
<th>Second Grade</th>
<th>Third Grade</th>
<th>Fourth Grade</th>
<th>Fifth Grade</th>
<th>Middle School</th>
<th>High School</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Text Programming Languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Try Ruby <a href="http://tryruby.org/">http://tryruby.org/</a></td>
</tr>
<tr>
<td>Python Shell/Emulator <a href="https://www.python.org/shell/">https://www.python.org/shell/</a></td>
</tr>
<tr>
<td>Swift Shell/Emulator <a href="http://swift-lang.org/tryswift/">http://swift-lang.org/tryswift/</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Programming Clubs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coder Dojo <a href="https://coderdojo.com/">https://coderdojo.com/</a></td>
</tr>
<tr>
<td>Google CS First <a href="https://www.cs-first.com/">https://www.cs-first.com/</a></td>
</tr>
<tr>
<td>STEM Scouts <a href="https://stemscouts.org">https://stemscouts.org</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Online Courses (Computer Science, Programming)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Codecademy <a href="https://www.codecademy.com/">https://www.codecademy.com/</a></td>
</tr>
<tr>
<td>Code HS <a href="https://codehs.com/">https://codehs.com/</a></td>
</tr>
<tr>
<td>Khan Academy <a href="https://www.khanacademy.org/computing">https://www.khanacademy.org/computing</a></td>
</tr>
</tbody>
</table>

Adapted and expanded from Nikolas Chatzopoulos’ chart: https://twitter.com/chatzopoulosn/status/742509403258130433

This sheet created by Tim Slavin, publisher of Kids, Code, and Computer Science Magazine https://KidsCodeCS.com using links/resources at that site

version 1.1.0 / 2 October 2016

Got changes? Corrections? Please contact Tim Slavin at hello@KidsCodeCS.com. Thank you!