

Hands-on Exploration of Computer Science (PK-2)

Getting students interested in coding doesn't have to involve screens! Check out this list of fun activities to do.

- 1) [Take apart a computer](#): Find an old computer or laptop, bring in some screwdrivers and take it apart. You can also use cardboard to create your own computers or robots.
- 2) [Algorithm Treasure Hunt](#): Using paper, print out a picture of a treasure and arrange the papers around it. You could also create a grid using painters tape on the floor. Have students give directions orally or write it down as part of an algorithm to get someone to the treasure. Reset it by rearranging the paper.
- 3) [Creating beaded patterns](#): Coding relies on lots of patterning, so even creating simple ABAB or ABBA patterns is a great precursor activity.

[Bead your name in Binary Code](#): Print out the binary alphabet and have students used colored beads to create their name or numbers using the specific patterns.

- 4) [Very Hungry Coding Caterpillar](#): Draw or print a picture of a very hungry caterpillar and some food. Arrange them on the floor and give your students some arrow flash cards to guide the caterpillar
- 5) [Introduction to Loops](#): Create an obstacle course with stations arranged in a circle and no matter where students start, they will loop around to do each station in the activity. This introduces students to the coding concept of a loop, where a command is given to do the same thing over and over again.
- 6) ["The Coder Says"](#): Explain that computers can only follow instructions if they are complete. So if the coder says to do something it will do it, but if an incomplete command is given without saying "The Coder Says", they don't have to follow those instructions.
- 7) [The Big Event](#): Events are actions that a computer constantly monitors for and reacts to. This is a game where a teacher will press buttons on a paper remote and students will react depending on which button is pressed.
- 8) [Create a Block or Lego Maze](#): Use blocks or legos to create a maze for a plastic figurine to navigate. One student can give commands using arrows or
- 9) [Design your own App](#): Using boxes, students can draw, color, and write to create how an application they would want to create would function.
- 10) [Pixel Art](#): Print out graph paper and color in the blocks, [use post-it notes](#), or have students practice cutting and pasting squares onto paper.