

Treasure Hunts

A treasure hunt requires many of the skills that computer programmers use when coding. By creating a treasure hunt with instructions and directions, children can follow to find their treasure. This teaches children about **algorithms**, a set of instructions to help a computer perform a specific task. There is no prep required for this activity! Simply place "treasures" all around the house or garden, then draw a map with instructions. A simple example could be: 2 big steps forward, 3 big steps right, Climb under the table, 4 big steps left, and so on. If they make a mistake they must go back and start again (**debug** the code!) until they find where the treasure is hidden.



Mazes

Following a maze is a great coding activity for children because it helps them to develop resilience. If they find they are going in the wrong direction, they need to go back and try again until they find another path to follow.

To add some extra fun make a blindfolded maze! Have the parent act as the 'computer' and the child as the 'programmer'. The programmer has to give instructions (**algorithm!**) to help the blindfolded computer through the maze! Then swap roles.

Sequencing Stories

Telling stories is a great way to help children develop coding skills. Break up the story into pieces, perhaps by picture, mix them up and have the children put the story in the right order. Children will have to study each piece and think logically in order to work out which piece of the story goes first and put each piece in the correct order to be able to read the story from start to finish. This teaches the important skills of **sequencing**, which is a vital part of understanding how to code.



Puzzles

Problem-solving is one of the things computer programmers need to be good at. Puzzles can help children with this type of skill because essentially you are giving them a problem to solve. Children need to look at what the puzzle looks like, and examine the pieces to eventually put them all together to finish the puzzle. Breaking a big picture into small steps is the foundation of coding!



Spray Zone

The parent is the robot & the child is the 'programmer'. The programmer has to direct the robot using simple commands to the 'spray zone' squares where they get to spray their robot with water. Draw out a 6x6 square. You can adjust the number of squares to suit the size you have. Colour in a few of the squares in white or blue. These are the SPRAY ZONE squares. When the robot lands on these squares the programmer gets to spray them with the water squirter! The robot can start anywhere on the grid. The programmer then has to direct the robot to land on one of the SPRAY ZONE squares. The programmer can only speak in 'code', meaning that they have to tell the robot EXACTLY how to get there (one step forward, two steps back etc).

Building Blocks

Building blocks are perfect for encouraging future engineers and programmers. Children can get creative and build something they can be proud of. Building something out of blocks takes patience, persistence, and determination; all skills needed in computer programming! **Logical thinking** is also important. Children need to think about how and if the blocks can balance and where to put them in order to do so. To add a twist, you can make a chain reaction with blocks and dominoes! Chain reactions help children understand **cause-and-effect**, and, they are a whole lot of fun!

