

These debugging tips will help you keep moving when you get stuck!

## Work to Avoid Mistakes



Read the directions.



What is the goal of the puzzle?



Take it slow and go one step at a time.



Can you talk about the problem in your own words?



Were you given any code to start?

- What does it do?
- Why do you think it's there?



## Debugging



Look for problems each step of the way.



Describe what was supposed to happen.



Describe what is going wrong.



Does the difference between what was supposed to happen and what did happen give you any clues?



Fix one thing at a time, then describe how the result changed.



Try leaving "breadcrumbs" in your program. You can put clues inside your code (like having your program "say" something) to let you know when each chunk runs.



Try doing each task as its own chunk, then put all of the pieces together at the end so it is easier to see what each thing does.








Try at least three ways of fixing problems before you ask for help.









Talk to a friend. Maybe one of your classmates can help you figure out where your plan goes awry.

These tips will help you get unstuck when solving Code.org puzzles!






### Step 1: Understand the Puzzle

-  What does the puzzle want you to do?
-  Can you talk about the problem in your own words?
-  Were you given any code to start?
  - What does it do?
  - Why do you think it's there?
-  What is the goal of the puzzle?
-  Have you solved any other puzzles that are like this one?






### Step 2: Create a Plan *(Pick one or more)*

-  Write an algorithm.
-  Guess and check as you go.
-  Draw a picture of what you want to do.
-  Try working backward.
-  Solve one small piece at a time.
-  Compare to a puzzle that you've already solved.

### Step 3: Perform and Perfect the Plan

-  Did you solve the puzzle?
-  If not, hunt for one error at a time.
-  Retest your plan after every change.
-  If you start to get frustrated, take a deep breath, or leave your screen for a minute. When you come back, you may see what was causing the trouble!
-  Ask questions. Maybe one of your friends can help you figure out where your plan goes awry.

### Step 4: Check Your Work

-  Does your answer solve the puzzle?
-  Did you hit all of the goals of this puzzle?
-  Now that you have one way to solve the puzzle, is there an easier way to do it?
-  If you change this solution a little, will it work for any other puzzles?
-  Could you explain your solution to help