

Kit's Coding Adventure: Designing a Robot

Learning objective: To understand the components of an algorithm and the basic structure of a computer program.

Follow the drawing prompts below to design your own helpful robot. Use the word bank to label your robot's different components and explain what they do.

Draw: Draw a friendly robot in the center of the page. Use geometric shapes for its body (e.g., squares, cylinders, or triangles). Include a screen for its face, a 'sensor' somewhere on its head, and a 'processor' compartment on its chest. Make the style clean and technical, like a blueprint, using clear lines and labels.



Label words: Input · Output · Algorithm · Processor · Sensor · Loop

Steps:

1. Step 1: Draw a robot that can help in a classroom. Label the part that acts as the 'sensor' to detect when a student needs help.
2. Step 2: Write a simple 'algorithm' (a set of 3 steps) for your robot to follow when it sees a student raise their hand.
3. Explain why a 'loop' might be useful for your robot while it is waiting for a student to ask a question.
4. If you wanted to add a 'debug' button to your robot, where would you draw it and what would it do?

5. Kit the fox says algorithms must be precise. Why is it important that your instructions are in the correct sequence?