

4H Robotics Requirements

Each robot must be free-standing, without the need for additional supports to be moved or exhibited.

Robots must have automated articulated structures (arms, wheels, grippers, etc.).

Robot dimensions should not exceed 2 feet high, by 2 feet wide, by 2 feet deep. Weight may not exceed 15 pounds. If displayed in a case (not required) the outside case dimensions may not be more than 26 inches in height, width, or depth.

All electric components of the robot must be adequately covered or concealed with a protective enclosure. Paper is NOT considered an adequate enclosure or covering for electrical components.

Robots that include weaponry of any kind will be disqualified. Weaponry is defined as any instrument, possession, or creation, physical and/or electrical that could be used to inflict damage and/or harm to individuals, animal life, and/or property.

Remote controlled robots are allowed under certain conditions provided that the robot is not drivable. Robotic arms (hydraulic or electric) are allowed. A remote is allowed provided more than a single action happens when a single button is pressed on the remote, for example "a motor spins for 3 seconds, at which point an actuator is triggered, then the motor spins for 3 more seconds." Remote controlled cars, boats, planes and/or action figures, etc. are not allowed.

The exhibit must include written instructions for operation (the instructions should be written as if they were to tell a grandparent or elderly person how to operate the robot), construction plans, and one to three pages of project photographs. For robots that can be programmed, robot programming information must be included, this information should be placed inside the 10" x 13" manila envelope mentioned above. Robot programming information can be, but not limited to, source code, block diagrams, screen captures of the coding window, and other images that show the programming logic used.