

# 200 Electronics Project Ideas for Students

## Home Automation Electronics Project Ideas

1. Build a smart doorbell that takes pictures when someone visits
2. Make a light switch that turns on when you clap your hands
3. Build a system that waters plants when the soil is dry
4. Make a fan that turns on when the room gets hot
5. Create a garage door that opens using your phone
6. Make an alarm clock that checks the weather each day
7. Build curtains that open and close with the sunlight
8. Make bedroom lights dim with your voice
9. Create a smart heater that knows your daily routine
10. Build a pet feeder that gives food at set times
11. Make a safety alarm that sends alerts to phones
12. Create a mailbox that lets you know when mail is here
13. Build windows that open by themselves for fresh air
14. Make a nightlight that turns on when it senses motion
15. Create a doormat that tells you when someone steps on it
16. Make a garden sprinkler that checks the weather before watering
17. Build a music player that starts when you speak

18. Make a mirror that shows the news and weather
19. Create a trash can that opens when you wave your hand
20. Build a device that shows how much electricity you use
21. Make a smoke alarm that sends a message to your phone
22. Create a bird feeder that records birds eating
23. Build a voice-controlled remote for the TV and more
24. Make a device that finds water leaks in the basement
25. Create an air freshener that sprays at certain times

## **Robotics and Automation Electronics Project Ideas**

26. Make a robot that follows black lines on paper
27. Create a robot that dances to music beats
28. Build a robot arm that picks up tiny things
29. Make a robot that walks with four legs
30. Create a robot that doesn't bump into things
31. Build a robot that listens and follows voice commands
32. Make a robot vacuum that cleans your floor
33. Create a robot that sorts balls by color
34. Build a pet robot that walks around with you
35. Make a robot that draws on paper
36. Create a robot that battles for fun
37. Build a robot that climbs walls and ceilings
38. Make a swimming robot for pools

39. Create a robot that plays games like tic-tac-toe
40. Build a robot that mixes pretend drinks
41. Make a robot that waters your garden
42. Create a robot that brings snacks to rooms
43. Build a robot that plays music instruments
44. Make a robot that solves mazes
45. Create a robot that knows faces and says hello
46. Build a robot that catches balls
47. Make a robot that paints with different brushes
48. Create a robot that puts books in the right place
49. Build a robot that helps kids learn math
50. Make a robot that plays chess with you

## **Communication and Networking Electronics Project Ideas**

51. Make a walkie-talkie to talk from far away
52. Build a doorbell that works without wires
53. Create a small radio to send out music
54. Make a machine that changes text to Morse code
55. Build a device that checks how strong wifi is
56. Create a speaker that connects with phones
57. Make a simple system to talk between rooms
58. Build a weather station that sends info from far away
59. Make a phone signal booster for clearer calls

60. Create a small computer that sends emails
61. Make a signboard that shows text messages
62. Build a wireless mouse and keyboard
63. Make a chat system for two computers
64. Create a funny voice changer
65. Build a radio that listens to emergency workers
66. Make a website on a small computer
67. Create a camera that shows video on phones
68. Build a message board you can text to
69. Make a phone app to control devices
70. Create a thermometer that sends temps from far away
71. Build a system for video calls
72. Make a game controller without wires
73. Create a radio that hears stations from other countries
74. Build a doorbell with different songs
75. Make a remote to control the TV or stereo

### **Sensor and Monitoring Electronics Project Ideas**

76. Make a motion sensor that turns on lights
77. Create a thermometer to check if it's hot or cold
78. Build a light sensor to measure how bright it is
79. Make a sound sensor that hears loud noises
80. Create a sensor that checks how far things are

81. Build a water level checker for fish tanks
82. Make a gas sensor that tells if air is bad
83. Create a pressure sensor to see how heavy something is
84. Build a humidity checker for greenhouses
85. Make a vibration sensor that feels tiny shakes
86. Create a sensor that sees paint colors
87. Build a tool to find hidden metal
88. Make a heart monitor that counts beats
89. Create a smoke sensor to warn about fire
90. Build a soil moisture sensor for watering
91. Make a rain sensor to see if a storm is coming
92. Create a wind speed sensor for weather watching
93. Build a noise meter for sound checks
94. Make a pH sensor for testing water
95. Create a radiation sensor for energy waves
96. Build a step counter to count how much you walk
97. Make a breathing tracker to see chest movements
98. Create a posture checker to remind you to sit straight
99. Build a sleep tracker for better rest
100. Make a stress checker using skin sensors

## **Audio and Music Electronics Project Ideas**

101. Make a small amp for an electric guitar

102. Create a recorder to save family voices
103. Build a music box that plays songs
104. Make a sound machine for party fun
105. Create a karaoke machine with mic and speaker
106. Build a drum machine with beats
107. Make a piano using touch buttons
108. Create a light show that dances to music
109. Build a radio to hear stations worldwide
110. Make a tool to check how loud music is
111. Create a music maker with cool sounds
112. Build a voice-activated player
113. Make wireless headphones
114. Create a mixer that blends sounds
115. Build a musical doorbell that plays a song
116. Make a practice amp for learning instruments
117. Create a tiny studio to record music
118. Build a guitar pedal for sound effects
119. Make a rhythm tool for keeping time
120. Create a music player that streams from the web
121. Build a sound controller to change tones
122. Make a wireless mic for shows
123. Create lights that flash to music

- 124. Build a music alarm clock
- 125. Make a mixer for podcast shows

## **Gaming and Entertainment Electronics Project Ideas**

- 126. Build an electronic dice that shows random numbers
- 127. Make a game to test how fast you react
- 128. Create a memory game with blinking lights
- 129. Build a dartboard that keeps score
- 130. Make a tic-tac-toe game using lights
- 131. Create a whack-a-mole game with buttons
- 132. Build a tiny slot machine
- 133. Make a quiz game with choices
- 134. Create a Simon Says game with colors
- 135. Build a digital 8-ball to answer questions
- 136. Make a pinball game with lights
- 137. Create a laser tag game for the yard
- 138. Build a joystick for computer games
- 139. Make a funny future teller
- 140. Create a maze game you tilt to play
- 141. Build a rock-paper-scissors game vs a computer
- 142. Make a racing game with steering controls
- 143. Create a digital coin flipper
- 144. Build a sliding number puzzle

- 145. Make a picture match game
- 146. Create a word guessing game
- 147. Build a musical chairs game with auto music
- 148. Make a bingo game that calls numbers
- 149. Create a truth or dare game
- 150. Build a carnival game with points and prizes

### **Educational and Learning Electronics Project Ideas**

- 151. Make a quiz game to learn multiplication
- 152. Create a spelling game that says words
- 153. Build a calculator that shows steps
- 154. Make a quiz about world countries
- 155. Create a timer for science class
- 156. Build flashcards for studying
- 157. Make a tool that translates simple words
- 158. Create a game to learn chemistry elements
- 159. Build a finder for star shapes in the sky
- 160. Make a typing game for speed
- 161. Create a camera for a small microscope
- 162. Build a game that guesses weather
- 163. Make a controller for a telescope
- 164. Create a plant growth watcher
- 165. Build a ground vibration checker



- 166. Make a pH test for science class
- 167. Create a tester for circuits
- 168. Build a color mix game
- 169. Make a balance scale
- 170. Create a tool to check air pressure
- 171. Build a compass that points north
- 172. Make a sundial that tells time
- 173. Create a thermometer for measuring
- 174. Build a wind vane to show wind direction
- 175. Make a rain catcher to measure how much rain

### **Security and Safety Electronics Project Ideas**

- 176. Make a door alarm for your room
- 177. Create a camera that turns on with motion
- 178. Build a button that calls for help
- 179. Make a smoke alarm that sends texts
- 180. Create a door lock that uses secret codes
- 181. Build a sensor for broken windows
- 182. Make a loud whistle for safety
- 183. Create a car alarm with sensors
- 184. Build a fingerprint scanner for safety
- 185. Make a device to find hidden cameras
- 186. Create a GPS tracker for going outside

187. Build a fall sensor for older people
188. Make an alarm for fires in the kitchen
189. Create a carbon monoxide alarm with phone alerts
190. Build a beacon for hiking trips
191. Make a door camera to see visitors
192. Create a reminder to take medicine
193. Build a lie detector with skin sensors
194. Make a loud alarm clock
195. Create a motion sensor for intruders
196. Build a water leak alarm
197. Make a gas leak detector for kitchens
198. Create a light that works in power outages
199. Build a sensor for early earthquake warnings
200. Make a siren for tornado safety