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| **Lesson 6: Hidden Switches Goal:** Students plan, construct and troubleshoot a gadget that is controlled by a hidden switch; and represent their gadgets both in writing and using a circuit diagram | | | | |
| **Objective:** | **Below (1)** | **Approaching (2)** | **Proficient (3)** | **Advanced (4)** |
| A. Identify and record examples of hidden switches in the everyday environment | No examples found | One or two examples found, but no explanation of how it operates and/or what it controls | Multiple examples, with explanations of how each one operates and what it controls | (3) + identification of where a hidden switch is located and the mechanism that makes it work |
| B. Draw and describe the gadget student would like to create | No drawing or description | Some drawing or writing; details missing, such as what the switch will control, what will operate it, or where it will be located | Drawing and writing include details of what the switch will control, what will operate it, or where it will be located | (3) + innovative concept |
| C. Design and make the hidden switch | No hidden switch | Switch is not constructed well and would not be reliable | Demonstrates a reliable switch | (3) + innovative design and/or show how switch can be adjusted to modify its operation |
| D. Build, test and troubleshoot a gadget | Nothing built | Parts are not working; difficulty in troubleshooting | Gadget works as planned; evidence of troubleshooting to make it work | Elaborate and/or multiple Gadgets and/or assistance to other students in troubleshooting |
| E. Writing and drawing for communication and reflection | No writing or drawing | Minimal writing or drawing, which does not include circuit diagram | Clear description, including circuit diagram | Writing and drawing are clear enough for others to reproduce the gadget |