Common to each board:
The power supply for each board will be tested using a voltmeter before connecting key components. It will then be soldered onto the boards and the green boards will be connected to the printed boards.

As each board will attach directly to a green board, we can test the expected pin response of each green board pin on its corresponding contact point with the green board using a multimeter.

As each greenboard has a CC1101 radio soldered directly to it, this will not be a testing concern for the printed boards. We will test these radio's with a simple communication program separately.

Interface:
Testing the display can be done through connecting the lcd display to the printed board and that to the green board, and observing if the display is responsive. If it is not, we can test each pin of the printed board for the expected electrical response using a multimeter to determine the point of failure.

To test each button on the interface, we will connect them to the board before soldering, and then write a simple program to output their state to the serial monitor. This will allow us to verify that they are properly connected.

Switcher:
To test the printed gear switching board, we will have to solder on an H-bridge, voltage regulator, and two capacitors. We will also need to solder pin headers onto the board. However, we will not solder the motor wires right away. We will secure these in place without soldering in case the board has issues. Energia has built in stepper motor test sketches. We can use the "stepper_oneRevolution" sketch to test the motor operation. This sketch has been previously verified to work with our motor using a breadboard hookup with the H-bridge. All we would need to change in this sketch are the pin numbers used. If the motor does not operate properly with this code, we can probe with a voltmeter to determine why signals are not being relayed properly.

Decision:
To test this board, we will need to start by soldering the voltage regulator, capacitors, and pin headers onto the board. We can route wires from a hall effect sensor and secure them to the board. We will then set up a program that will simply retrieve data from the sensor and output the data to the serial monitor. When a magnet is brought within a few millimeters of the sensor, we should see the signal flip from high to low.