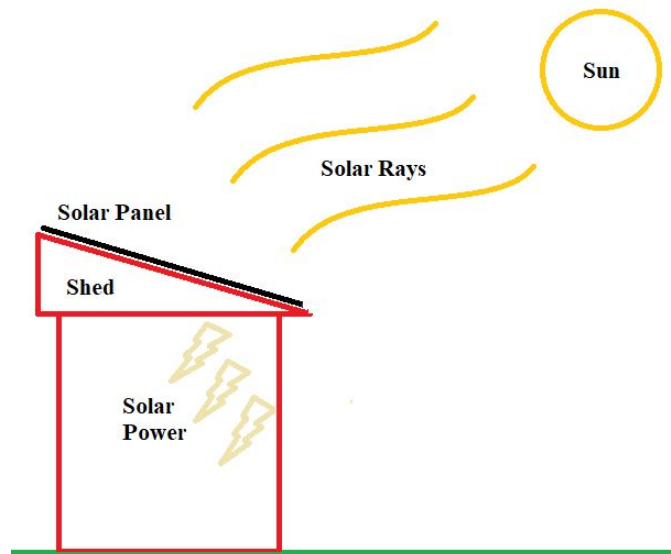
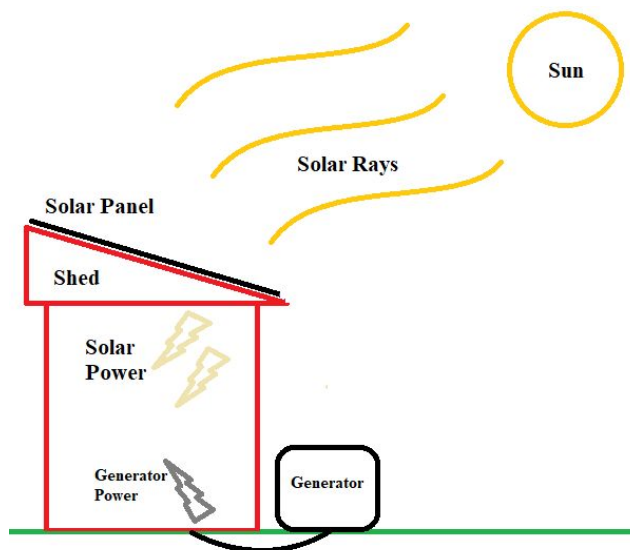


Function 1: Power the shed

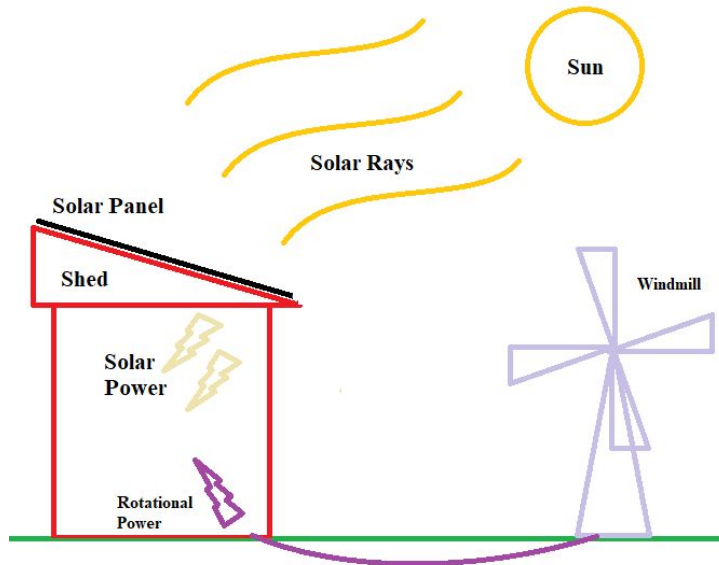
1. Set up the solar panels to provide power during the day then rely on grid power during the night



2. Set up the solar panels to charge batteries, then use the batteries to power the shed
3. Power the batteries with mechanical power, i.e. someone turns a crank manually, then use the batteries to power the shed
4. Power the shed using solely mechanical power, i.e. someone turning a hand crank manually
5. Connect the shed to grid power to only use grid power, not using the solar panels
6. Use solar panels to power the shed during the day, then use a backup generator to power the shed during the night with diesel



7. Instead of diesel, use the biofuel produced by a generator to then power the shed
8. Supplement the solar and/or grid power by installing a windmill in the garden to power the shed using wind power



9. Supplement solar and/or power by installing a ground source heat pump to extract heat from the ground
10. Supplement power by using a running water source nearby with a water turbine

#### Function 2: Record environmental data

1. Write a script to query the sensors every half hour and take in input data to display to a screen with a comprehensive summary
  - a. Pseudocode:

```
def clock_check():  
    if current_minutes == 30:  
        querySensors()  
def querySensors():  
    V_co2 = getco2Sensor()  
    V_hum = gethumSensor()  
    V_temp = gettempSensor()  
    saveData()  
    displayData()
```
2. Query the sensors every hour or two hours instead, but still display it to a screen
3. Query the sensors only once per day and estimate the rest of the day
4. Don't display the data to a screen, but instead just save it onto a harddrive to be collected and analyzed at the end of each day.
5. Schedule times for someone to go in person and measure the data themselves, recording it in a program or on a sheet
  - a. Example Log sheet

Name	Date/Time	Temperature (oF)	CO2 (ppm)	Humidity (%)
Sarah Brownell	xx/xx/xxxx xx:xx	80	2000	70
FIRST LAST	xx/xx/xxxx xx:xx	83	2050	84
...	...	...	...	...

6. Don't query or measure the data and let it take care of itself
7. Watch the flies for their current health, and record information based on this observation
8. Average the data queried so far in a day, and display that to the screen. Update the average every time the data is queried.
9. Query the data and send it over the network to an external computer, displaying/saving it there instead of a screen at the shed
10. Query data and send it to a cloud storage system to be retrieved whenever