

Forge Garden

# Water Feature

- 1) Project Description
- 2) Interview Summary
- 3) Brainstorm
- 4) Research
- 5) Design



# Project Description

- **Collaboration** with the Santa Clara University Engineer 110 Group, Muwekma Ohlone Tribe and Forge Garden
- For the **Muwekma Ohlone Tribe** and the **general community**
- **Objective:** Create a vertical water feature, where the sound of running water could be heard  
Integrate decorative features that resemble Muwekma Ohlone Tribe such as abalone shells

# Interview Summary

Forge Garden: Water Feature

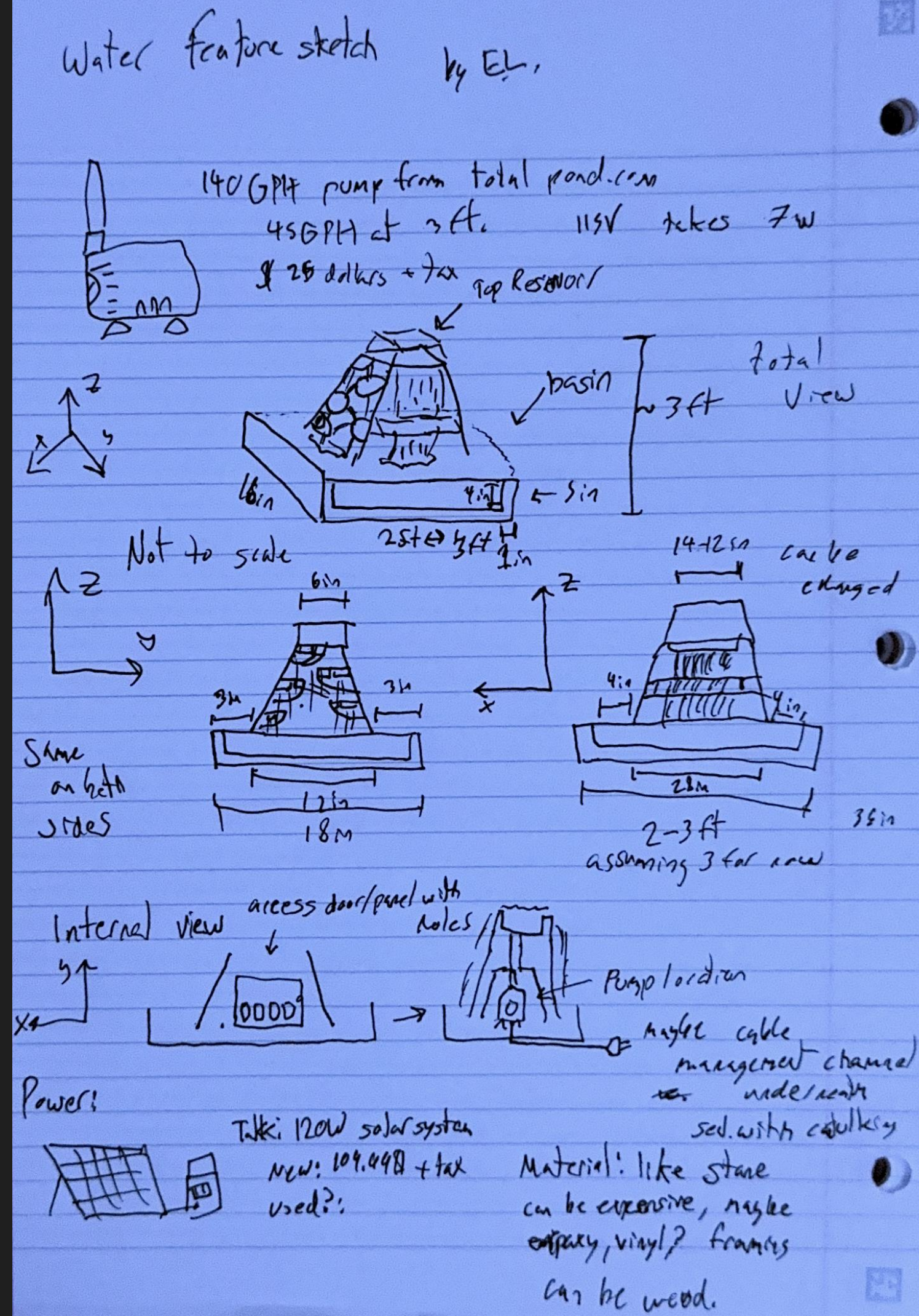
- Abalone shells are an importance to the Muwekma Ohlone Tribe
- The water should fall vertically, and the fountain itself should be relatively small
- The system should be on 24/7 using renewable energy
- Cares about longevity, but can have some maintenance necessities aspects
- Abalone shells are emphasized (we don't know if she wants it on the fountain or around)



# Brainstorm

Credit: Erick Lopez  
Idea 1

## Forge Garden: Water Feature

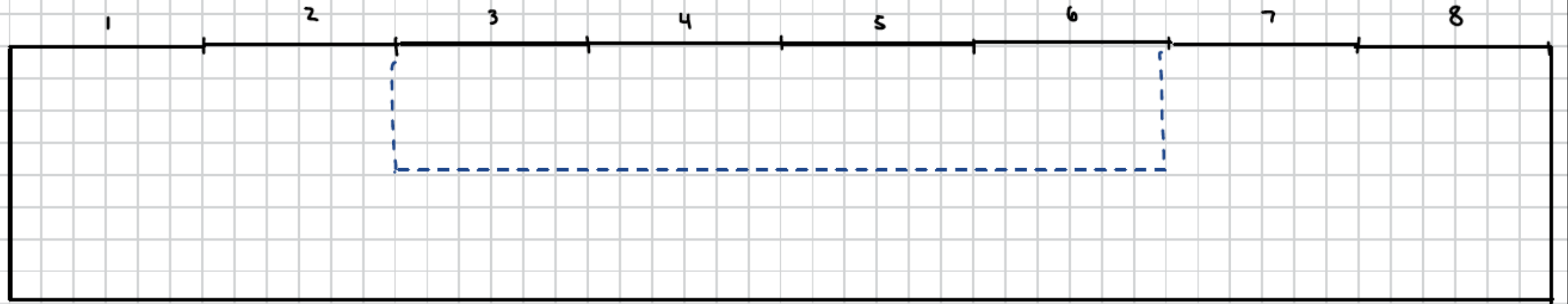




# Brainstorm

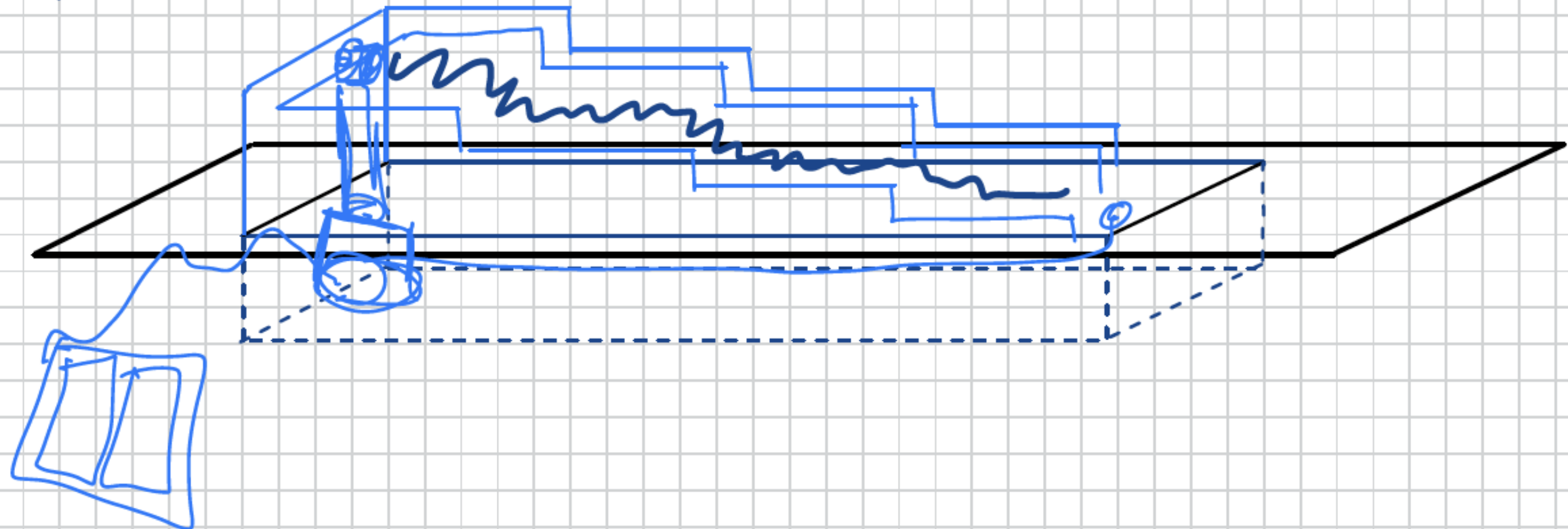
Forge Garden: Water Feature

Credit: Tiffany Doan  
Idea 2



cost :  
solar \$63.99 / \$16.99

#1

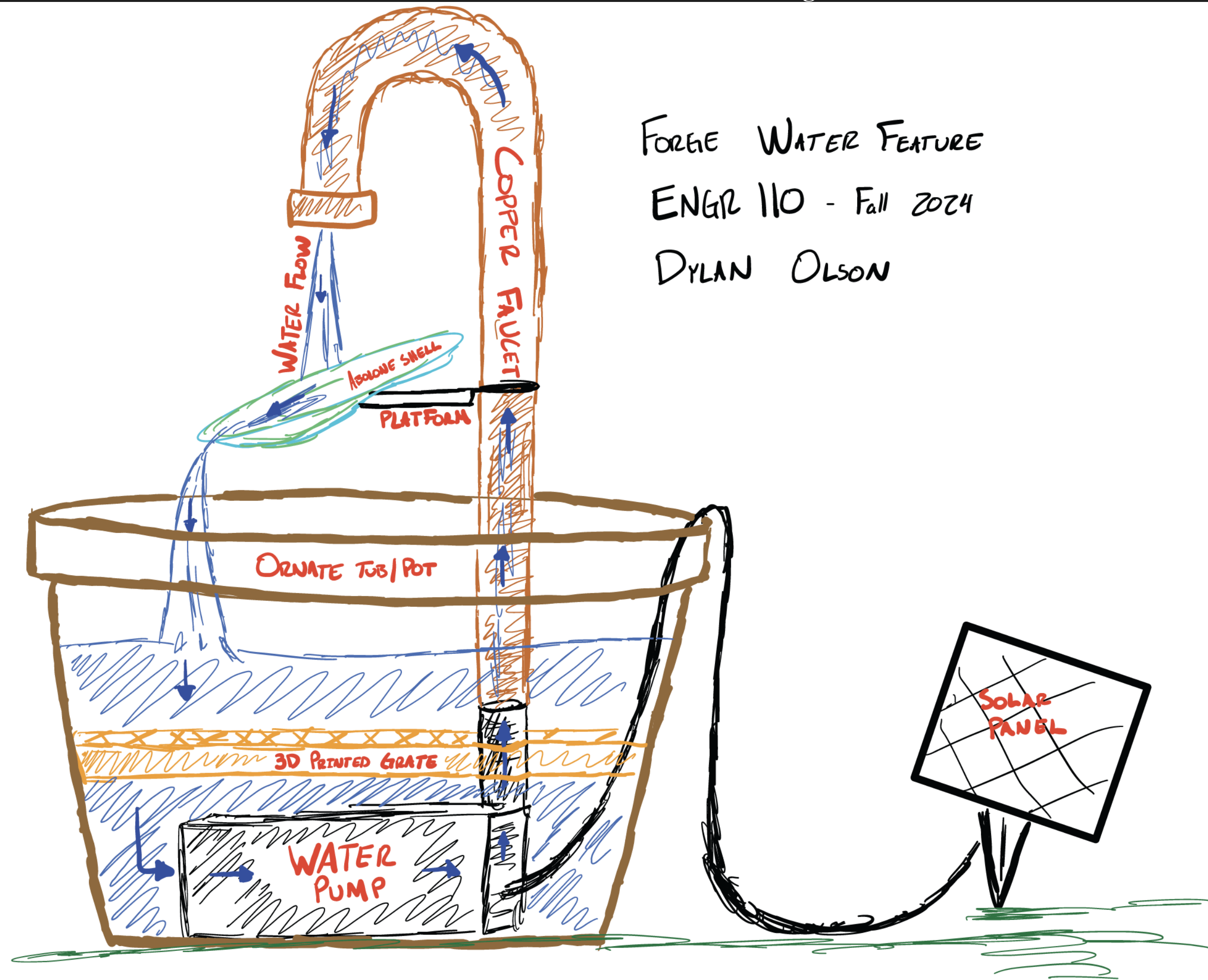


# Brainstorm

Credit: Dylan Olson

This is the idea we have collectively decided on. Forge Garden, Muwekma Ohlone Tribe, and us, all think this idea would be the most viable to implement.

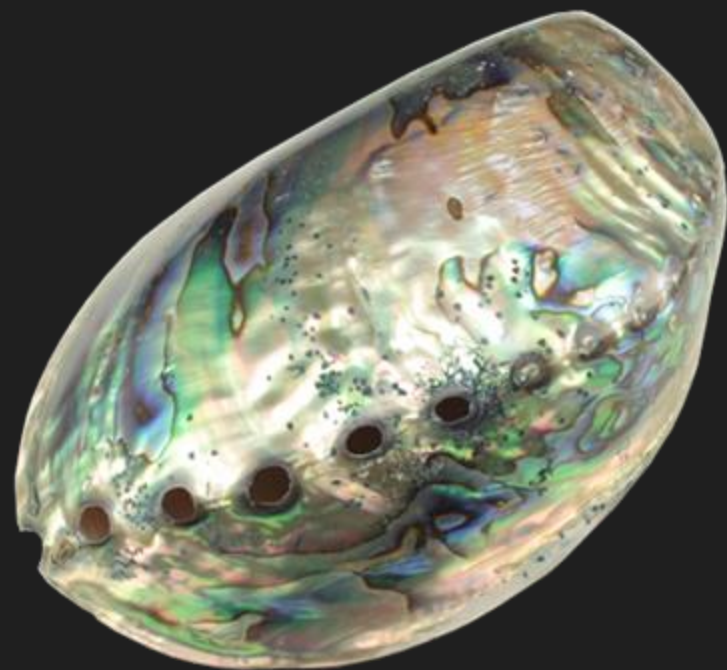
Forge Garden: Water Feature



# Research: Part Analysis

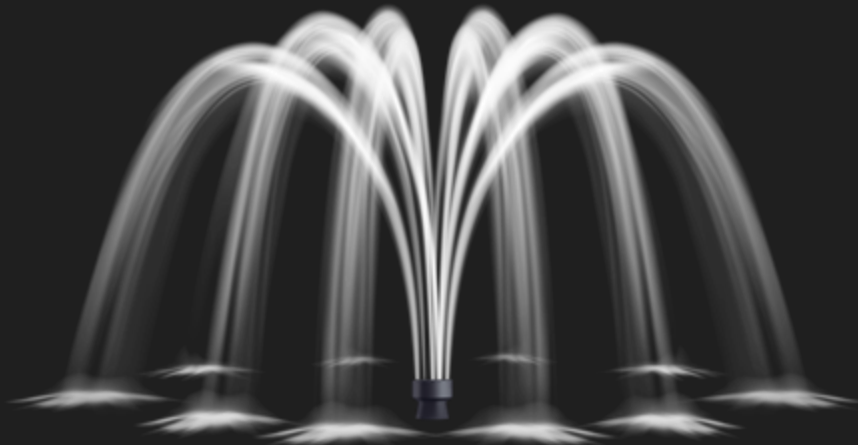
Elements that are needed

Forge Garden: Water Feature



Abalone Shells

Aesthetics



Water Feature & Catchment System

Core of Our Project



Some source of renewable energy

Additional Benefit



Plant Bed (provided)  
What we are working with

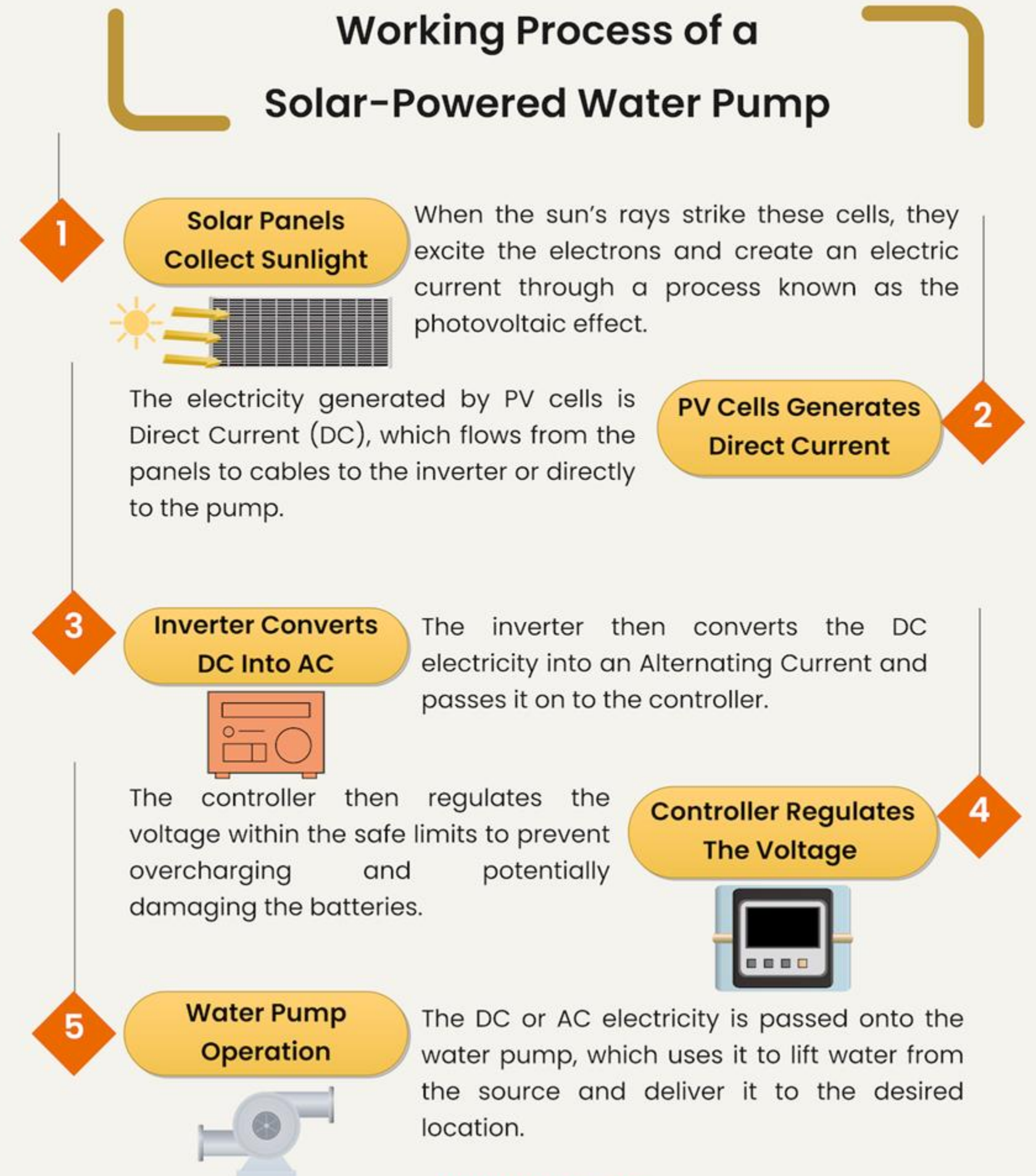


# Info on Solar Pump

Battery Capacity in Wh x Battery Efficiency / Wattage = Total Time

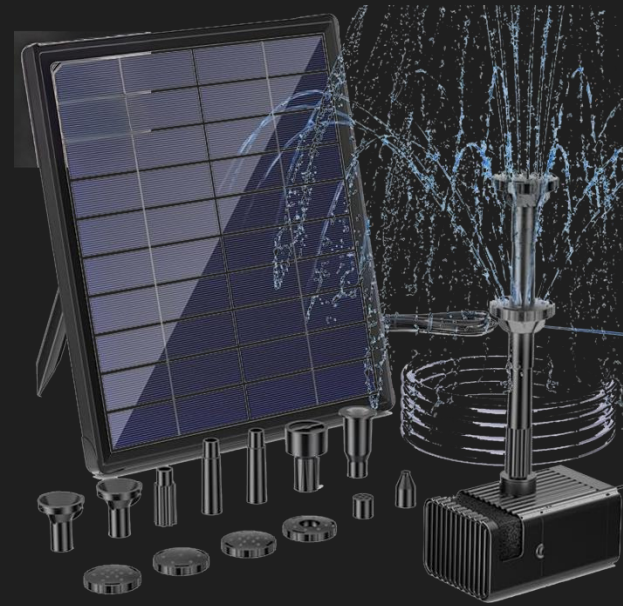
**Runtime Calculation will differ for each pump  
We will consider the efficiency, and power  
factor of the battery while selecting our parts.**

Source



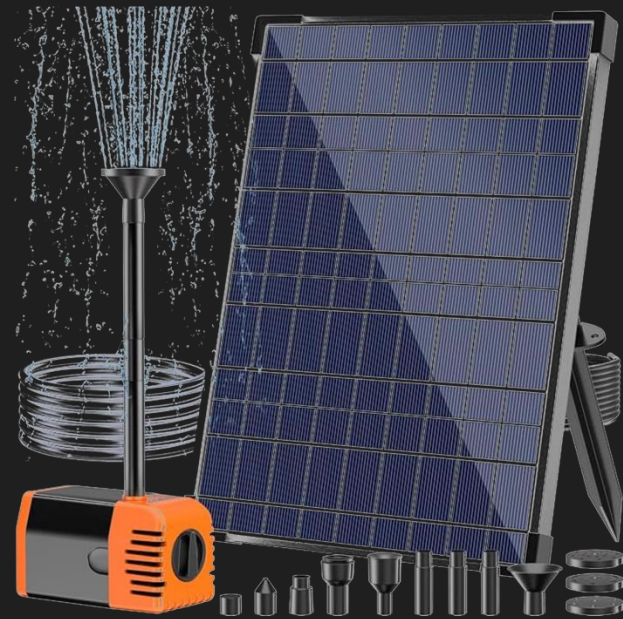
# Cost Analysis: Water Pumps

Forge Garden: Water Feature



**\$25.99**

- + 6 W, 80 GPH
- + 3000 mAh Battery Backup
- + Cheap



**\$64.99**

- + 25W, 410 GPH
- + Sound will be loud
- No reserve battery



**\$83.99**

- + 25W, 410GPH
- + Backup battery available for purchase

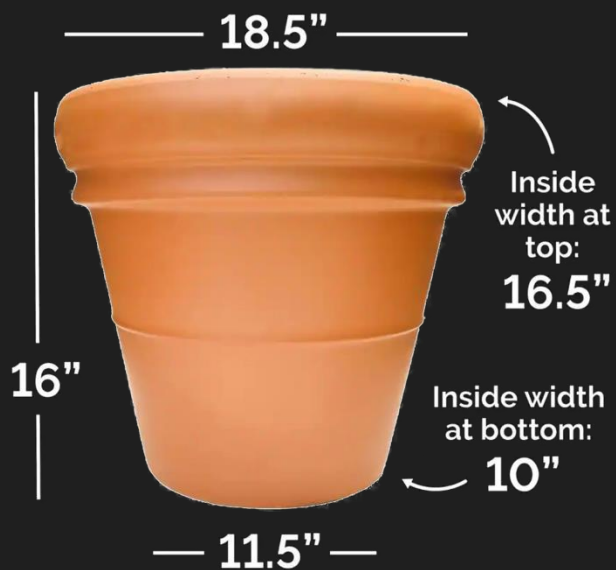


**\$35.99**  
+ 2600 mAh



# Cost Analysis: Pot

Forge Garden: Water Feature



\$39.97

- + 18.5" x 16"
- + Good dimensions
- Low stock



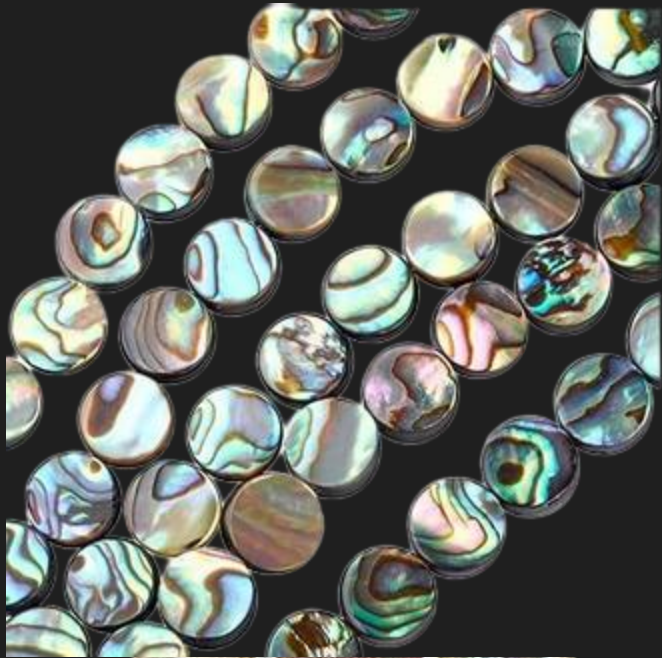
\$29.97

- + 19.5" x 17"
- + Cheaper



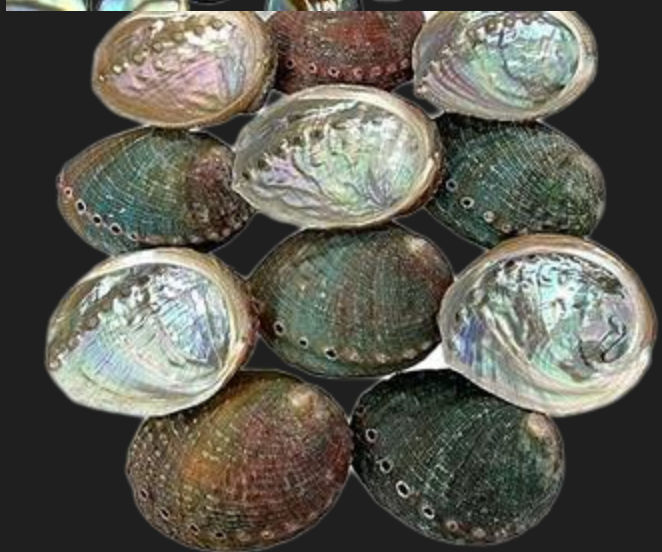
# Cost Analysis: Abalone Shell

Forge Garden: Water Feature



**\$15.99**

- + Cheap
- + More reflections and coverage



**\$28.99**

- + Full shells
- Pricy



**\$17.97**

- + Many Shells
- Looks less like abalone
- Less shiny