Treadle Pump Challenge

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Monday, October 21, 13
Treadle Pump Challenge!!!

In 30 min, at 0 and 2 m elevation, measure/calculate the following:

• Characteristic flow rate
• Characteristic power input by the person
• Characteristic power output
• The efficiency of the system
• Estimated amount of water (in liters) a person could transfer in one work day
• Estimated average power output that a person could sustain throughout the day
Human Power

<50 W for all day
How much water is enough???
Leakage

What does this do?

Leaking water instead of air increases leakage resistance by \( \sim 10^4 \)

120 mm gap

90 mm
Next Class: Concept Presentations

**Strategy**

What
Independent of physical embodiment

**Concept**

How
*Physical (actionable)*
solution for your strategy

- Brief summary of your problem
- Brief summary of your design reqs and chosen strategy
- Overview of concepts you considered (pictures where possible)
- Description of chosen concept (main focus of talk), including what it looks like/architecture, justification/analysis of performance, bench-level prototypes, and input from partners
- List of modules within the concept, identifying which you think is most critical
- 10 minute presentation with 5 min Q&A after