

Learning Task 2.1 Let there be light

Consider the following problem...

In Kenya, like in many developing countries, 96% of householders use kerosene for lighting. 70% also spend significant amounts of hard earned cash on dry-cell batteries for torches. This recurrent cost every month consumes limited financial resources that could otherwise be directed towards children's education or family health.

Additionally, kerosene is a hazardous and polluting fuel that has many negative impacts such as death from prolonged exposure to fumes, and injuries from burns. There is a real need to replace kerosene with a safer, sustainable and affordable light that eliminates such hazards.

What could be a possible solution?

Critically examine the following recent innovations that are all basic, low cost means of harnessing renewable energy to power an LED light. Could one or all of these products be a solution?



Product 1

d.light S20

Energy from the sun is available free and many countries have it in plentiful supply. There has been a growing interest in [photovoltaics](#) (technologies that convert the sun's energy into electricity). Unfortunately, the cost of installing a solar home system puts it out of the reach of most African families. The d.light S20, however, is a low cost LED lantern, powered by a battery that is charged from the sun via a small built-in solar panel. It provides up to 8 hours of light when fully charged.

Take a moment to study the [product features and benefits](#).



Product 2

The Soccket

The Soccket is a soccer ball that harnesses the [kinetic energy](#) that is produced when the ball is kicked, or is in motion. A pendulum mechanism inside the ball captures the energy and stores it in a light-weight battery inside the ball. 30 minutes of play, can power an attachable LED light for up to 3 hours.

[Read more about the Soccket.](#)



Product 3

Gravity Light

GravityLight is a gravity powered lamp. It uses a bag filled with sand or rocks, attached to a cord, which slowly descends, similar to the weight drive in a cuckoo clock. This action powers the light for up to thirty minutes. The weight can then be re-adjusted in a matter of seconds.

[Read more about the GravityLight](#). In particular, read about its benefits over solar powered lamps.



Learning Task: Let there be light

Consider the given problem and the three possible solutions. Decide on the best solution by comparing the products against the appropriate technology attributes.

Learning Outcomes

1. To strengthen your understanding of the term 'appropriate technology'.
2. To critique and critically consider the consequences of technological outcomes.
3. To foster an understanding of how technological outcomes influence, and are influenced by factors such as environment, economy, culture, gender and ethics.

Notes

Assume that all products are of similar affordability and availability. There is no right or wrong answer but you must explain the reasoning behind your decision.

Due

By Friday of Week 2

Suggested time commitment

90 minutes

Procedure

1. Refer back to the [attributes of appropriate technology](#) and select three attributes to apply to all three products that will help you evaluate the products and determine the best solution.
2. In the [discussion forum for this task](#), for each of the three products (approx. 150 words per product), compose an argument for or against their suitability as a solution. Your arguments must address the criteria of all three appropriate technology attributes you have chosen. Put all your arguments into one discussion post.
3. In light of your arguments (pun intended), which product do you perceive to be the 'best

solution' as a replacement for kerosene lamps? Include this in your post.

4. So we can aggregate everybody's choices and all see if there is a standout solution or divided opinion, go to [the choice board](#) and select the product you have chosen as the best solution.