

S lar Ray All Day

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Fifth Grade

Robinson Homeroom

Purpose

I am testing what light sources will work best as alternatives for sunlight. I am testing how far these alternatives go because after the sun's heat, light, and power starts to lower when it's cloudy, night time, and etc. Many solar powered things need something they can use when it's bad weather, a gloomy day, and the sun is not shining.



Question

Which light source best simulates solar power?

Materials:

The materials I'm using for this project include

A Solar powered train

Paper

Plastic train tracks

UltraViolet light

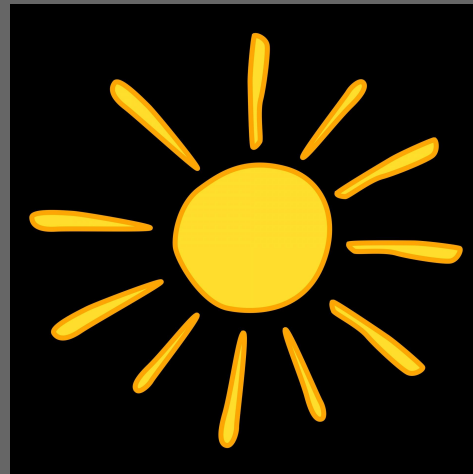
Tiny spiral dimmer light [a light that is subtle]

LED [a diode/semiconductor that emits light using electricity]

A power stripe

A portal light bulb socket

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Info Then, hypothesis

After researching I found that many people used solar thermal power plants.

The power plants aren't really plants but solar capturing devices which takes the heat and keep it. The heat is filled with solar power. After taking the heat it uses it when the sun is no longer out or visible enough to give the needed amount of solar energy/power. This information was found on Science.howstuffworks.com

Hypothesis

Knowing this my hypothesis is that the Uv light might work the best since the Sun's energy comes from the heat it produces and the Uv light produces heat too these similarities give the UV light a better chance of working the best. The

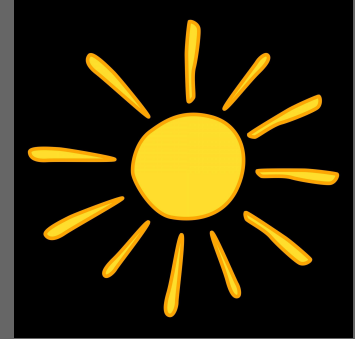
My Constant Variable:
this variable is the train

My independent variable: The type of lightsource

My Dependant Variable:
This variable is how far the train travels.

Procedure

1. I assembled a solar powered train.
2. I held the various lights up to the train to see how far it would travel.
3. I recorded the data.



I found the information given on this page by using this Howstuffworks.com website.

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By Miracle W.
robison HR



Conclusion

Was I correct?

My hypothesis was correct.

Uv worked the best to simulate the sun.

Why this is important:

Knowing this is important because this improvement on solar replacements can help the development of faster transportation and delivery.

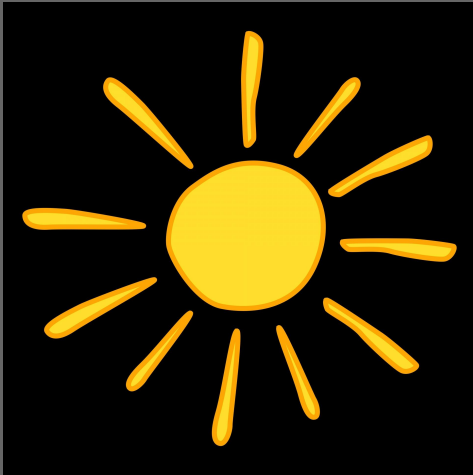
Results

The sun light went 8 centimeters. This was my control.
The dem light did not move at all.
The led light went 1 centimeters
And the uv light went about 7 centimeters going the farthest.

Data/Graph



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The Real world connection

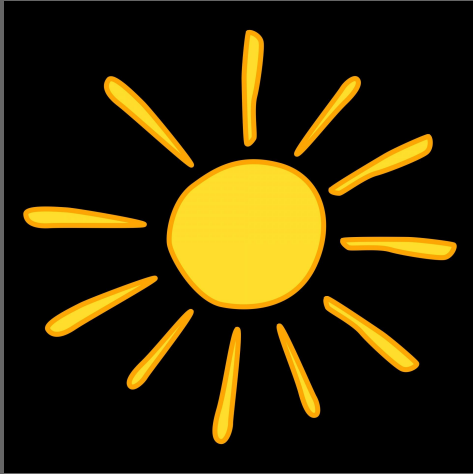
My real world connection is that solar powered things such as trains need a backup for times when solar power is out of reach.

When ever the sun is away we must have a plan so things still can operate. You would want to have something that can substitute the solar energy given by the sun. Testing what type of light will make the best alternative for the sun and its solar powered heat, because the sun goes away each night and during storms you would need something that can give you the same power needed with the closest ratio of power to the sun. People have been trying to find different alternatives. By testing these different light sources making sure you know which one will work the best and resemble the power of the sun's power and give you the same thing you can change the way people make a alternative power source too.

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What would in change if i repeated this project?

I would try to find alternatives that don't use or need electricity like solar absorbing panels. ☀️



My video



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Where to find the info.

References:

you can find the information on these pages

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By Adele Berti,on

railroad-technology.com

“Can railways be fully Solar-Powered?”

By Priya Aggarwal on

Sustainability-times.com

“Is there a way to get solar energy at night?”

By:Julia Layton on

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