Heating Our Way to the Future!

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The purpose of my scientific research is to determine if active and/or passive solar energy would be a viable option to use as an alternative energy source to heat water in a swimming pool or in a house. 1. I started by obtaining 3-5 gallon buckets to represent the swimming pool. 2. I added exactly 18.927 Liters of water to each bucket (5-gallons). 3. I cut two identical piece of solar cover to fit the top opening of the buckets. 4. I added a circulating pump to one bucket. 5. I started my testing by placing three thermometers in each of the 5 gallon buckets of water and one on the outside of the solar box. * One in the bucket of water (water) * One in the bucket of water with the solar cover over it (solar cover) * One in the bucket of water with the solar cover and circulating water pump (solar cover/pump) *One on the outside of the solar box to obtain the air temperature (outside solar box) 6. 5 heat lamps (100watts) were placed above each of the 3 buckets of water and also 2 in front of the solar box. 7. The lights were hooked up to a timer and turned on for a period of 12 hours and then turned off for 12 hours for a total testing time of 48 hours. 8. The digital thermometers were setup on a computer program to be read for a period of 72 hours. My scientific research showed that my hypothesis was correct. Solar energy, both active and passive, is a viable alternative to heating materials, especially water. The bucket with the water pump and circulating water through the solar box gained the highest temperatures while the lights were on and off for 48 hours. The solar cover was next followed by the bucket of water. The combination of the circulating pump, solar box and solar cover proves that you can harness heat energy anywhere the sun shines.

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