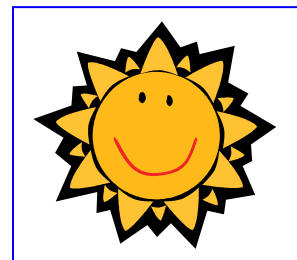


Guiding Questions Activity 7

- **How can we capture and put to practical use energy from the sun?**

The amount of solar energy intercepted by the Earth every minute is greater than the amount of energy the world uses in fossil fuels each year. It is obvious that at some point in time we here on this little planet will reach the end of the available fossil fuels. At this time in history, we are demanding more and more energy be made available for our everyday use. Whether it is for traveling from one country to another or simply from home to the local store we use energy. We require energy to heat/cool our homes and cook our food. And of course we use energy everyday for accessing all of those wonderful technological miracles that bring us entertainment daily...or provide us with a job which utilizes energy to run a program such as this computer program. The cost of energy is constantly rising and the source is slowly diminishing. Where do we turn for help?

The answer, of course, is to look to the sun for help. That's what Paul MacCready did. Besides creating and flying the first human-powered plane, he also built and flew the first plane powered by the sun. In 1980 he flew the Gossamer Penguin which was the first climbing flight powered solely by sunlight. Then in 1981 he piloted the Solar Challenger 163miles from Paris, France to England at an altitude of 11,000 feet. His flights brought world attention to the use of photovoltaic cells as a renewable and non-polluting energy source for home, industry, and transportation.



In 1987 the GM Sunraycer solar powered car won the 1,867 mile race across Australia. Once again, bringing attention to the vast resource of energy provided by the sun and helped to encourage the advancement of solar powered technology.

Events such as this are still held and help to inspire students to become engineers. One such event is the Junior Solar Sprint that was organized by the Department of Energy in the early 1990's. The Junior Solar Sprint is open to students in 7th and 8th grades. This event challenges students to design, build, and race solar powered cars. In my area of Chicago, Illinois it is organized by Argonne National Laboratory. Teachers and students follow precise building and racing rules to get a chance to compete. Engineers at Argonne helped to do pre-racing judging of the vehicles to determine the skill and knowledge of the builders/students and also to inspire them to continue in their journey towards Engineering.

Want to participate in this exciting program? Simply do a search for Junior Solar Sprint and you will find multiple resources. Look for an area near you to get information for competition.

If nothing else, provide some basic building materials for your class and build and race solar cars in your own school. It is well worth the effort!

More bonus points!

Thought problem: How could SuitSat2 use solar power in space?_____