

How Solar Energy Creates Chemical Changes

K4

PURPOSE & HYPOTHESIS

To find out if photosensitive paper can change color with the sun. What about construction paper or printer paper?

I predict that the special photosensitive paper will change when put out in the sun.

I predict that the construction paper will change and the printer paper too.

RESEARCH

I got the idea on the education.com website. This is the first time I am using this special paper. The project looked fun and I wanted to see what would happen to the special paper with the sunlight's energy and use different objects to put on the paper. I really wanted to use leafs and flowers. I also wanted to try other types of paper.

MATERIALS

- Objects: Shapes (Triangle, Circle and Rectangle), different types of leaves, dandelion and flowers.
- Sunlight
- Water
- Towel
- Special paper, Construction paper and Printer Paper.
- Glass sheet
- Timer

EXPERIMENT

1. Collect leafs, flowers and shapes.
2. Place leafs, flowers and objects on special paper in a shaded area (construction paper and printer paper as well for other samples)
3. Put glass sheet on top of the leafs, flowers or shapes to keep objects in place.
4. Take paper outside and put it in the sun.(5 minutes, 2 minutes and 1 minute)
5. Put paper in water.
6. Dry paper with towel.

PHOTOS

1. Placed objects on dark blue special paper.



2. Put objects and paper in the sun. The paper turned white.



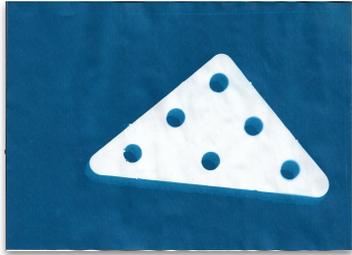
3. Remove objects from paper. Paper is still white and where the objects were placed it turned blue.



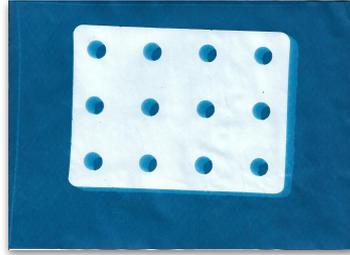
4. Put paper in water and after a few minutes the white parts turned blue and where the objects were placed it turned white.



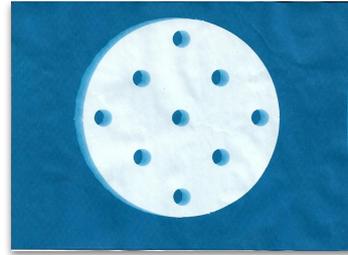
These are the other samples I took.



5 minutes
in the sun.
(darker)



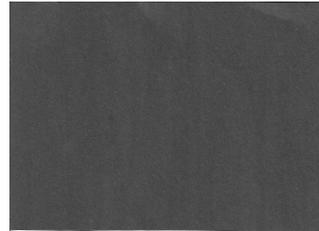
2 minutes
in the sun.



1 minute in
the sun.
(lighter)



Stick and
leaf print



Construction
paper didn't
change in the
sun.



Printer paper
didn't change
in the sun.

ANALYSIS

	5 minutes in the Sun	2 minutes in the Sun	1 minute in the Sun
Special Paper	It changed (darker color)	It changed	It changed (lighter color)
Construction Paper	Did not change	Did not change	Did not change
Printer Paper	Did not change	Did not change	Did not change

CONCLUSION

I found out that the special paper changed a different color with the energy of the sun because of the chemicals it has inside it. I also thought that the construction paper and printer paper were going to change too, but they did not because they didn't have the same chemicals. The sun doesn't just warm us up it is creating chemical changes all around us with light and heat.

REAL WORLD CONNECTION

Solar energy is important because it helps the plants and trees that give us food grow. Solar energy can also help our environment when we collect it and use it instead of using oil and gas which causes pollution and climate change to planet earth.

WORKS CITED

<https://www.education.com/science-fair/article/sun-print/>

<https://thehomeschoolscientist.com/solar-prints/>

<https://runwildmychild.com/sun-print-nature-art/>

<https://www.pbs.org/parents/crafts-and-experiments/make-sun-prints>

<https://www.youtube.com/watch?v=inPtRWtvDaM> (“What is Solar Energy?”)