Summer 7-30-2021

Super Solar

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NEBRASKA HONORS PROGRAM
CLC EXPANDED LEARNING OPPORTUNITY CLUBS
INFORMATION SHEET

Name of Club: Outrageous Acts of Science

Age/Grade Level: Grades 3-6

Number of Attendees: 15 (

Goal of the Club: (learning objectives/outcomes)

To teach students about renewable resources and their impact on the community.

Resources: (Information for club provided by)

Cardboard Boxes and Recycles Materials from the classroom

Content Areas: (check all that apply)

☐ Arts (Visual, Music, Theater &Performance)

☐ Literacy

☒ STEM (Science, Technology, Engineering &Math)

☐ Social Studies

☐ Wellness (Physical Education, Health, Nutrition &Character Education)

Outputs or final products: (Does the club have a final product/project to showcase to community?)

Solar Ovens

Introducing your Club/Activities:

Talk about the power of the sun. This is a great time to talk about the UV Index and teach the students how to read then index and know what it means in regards to

General Directions:

Introduce Students to the topic of renewable energy sources that can be used in your area. Then ask if there are ways that they can utilize renewable resources in their everyday life. Give the students access to a materials table and tell them the goal is to make the solar oven that can cook the food the fastest.

Tips/Tricks:

Let the students find materials on the supply table themselves and give them minimal instructions beyond the basic explanation of how solar energy works.

LESSON PLAN WORKSHEET

(copy table as needed)

Lesson Activity Name:	Super Solar
Length of Activity:	90 Minutes
Supplies:	Cardboard Boxes, Recycled Materials, Snack Ingredients

Directions:

Introduce Students to solar energy. Talk about the renewable energy sources that are used in their areas. Are there any windmills or solar farms in the area? Ask students if they know how you can capture the sun's energy. When students are ready to start the STEM activity, give them a piece of paper and have them look at the supply table and sketch out there design ideas. While they are sketching, ask them to think about both the suns rays and ways to retain heat. When students are ready, have them build their ovens and make sure they are sturdy enough to leave outside. Give the students the snack they are cooking. Students should predict how long their designs will take to cook the snack. Check on the ovens frequently.

Conclusion of the activity:

When students are done cooking their snacks, or when time is up, the students get to enjoy their treat! While they are eating, have them talk about ways they could change up their designs to make them more effective or more user friendly. You can also ask the students to look at the designs of their peers and as a large group design one oven that has parts of all of the others that they think is the more effective.

Parts of activity that worked:

The students really liked being able to design their own and start with minimal guidance on how to make their ovens. It allowed them to think more creatively. I also had students work in groups of they wanted and this allowed some of the students to share their ideas in their group and decide what they think would work the best.

Parts of activity that did not work:

Some of the students had a hard time getting started. I think having more instruction on how solar panels work and other ways to capture the sun's energy might help them feel like they are at a better starting place in order to design an oven that can capture the sun's energy.