**Activity 4: Solar Panels on the Moon**



**The Problem scenario:**

You are working as an engineer at the Turkish Space Research Center in 2050. Settlement areas have been established on the moon and trips to Mars are being made. Due to these travels and the life on the Moon, the need for energy is increasing day by day. As on Earth, it is desired to place solar panels on the Moon in order to benefit from solar energy. The task of designing solar panels and building them on the Moon has been given to the team you are the leader of. In this challenging task, you are expected to plan your work and successfully complete the task by considering many factors.

**1.** What are the potential problems you will encounter in the process of performing this task?

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**2.** After identifying the problems, do the necessary research, share your solution suggestions and designs on the digital board. The link for the dashboard is given below.

(Link not shown because it contains the author's first and last name)

**3.** Compare the properties of the Earth and the Moon (gravity, atmosphere structure, surface shapes, rock structure, etc.), discuss as a group how your solar panel designs should be and how you will place these panels on the Moon's surface (under the relevant heading in the virtual classroom).

Image: <https://yapidergisi.com/wp-content/uploads/2020/10/Ay-Yapisi-Ornegi-Large-1030x616.jpg>

**Activity 6. Yield of Solar Panel Fields**

**The Problem Scenario:**



A company producing solar energy panels will set up solar fields in an area in the Aegean Region. Solar fields are fields consisting of panels that convert solar energy into electrical energy. Zeynep who works as an engineer in the company was asked to design a solar field in such a way as to obtain high efficiency.

While Zeynep is working on this design, a detail hits her mind; while solar panels produce energy during the day, they can not produce it at night and this is actually a great loss.

1. Define the problem.

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2. How can Zeynep design for fertile solar fields?

* What should be the geometric structure of the panel?
* Does the angle of arrival of the sun rays to the Earth during the day negatively affect the efficiency of the panels? If so how can this be resolved?

Share your solution suggestions and designs by doing your research.

* Can solar fields be provided to produce energy at night? Prepare a presentation that includes your solution suggestions by doing your research on the subject.

Add your presentation to the "my work" section of the virtual classroom.