



Activity Name: A Sustainable Home

Blended Learning Format - Face to face - Engineering Design Process Model	Results	Teaching and Learning Activity	Evaluation
	After completing this activity, participants will be able to:	Participants will be taught to achieve these specific outcomes through the following learning activities:	Participants will be assessed on their level of achievement of these specific outcomes through the following assessment tasks:
	Recognizes renewable energy sources and realizes their importance.	Presentation of information through interactive presentations and discussions with links to various web resources.	Pro and con debate
	Have knowledge about methods of obtaining electrical energy from solar energy.	Information presentation through interactive presentations and videos, and brainstorming with referrals to various web resources.	Creating a poster or interactive presentation
	Explains the environmental benefits of solar energy.	Information presentation through interactive presentations and videos, and brainstorming with referrals to various web resources.	With the station technique, each participant adds different information to different stations (slogan station, poster station, story station, etc.)
	Is aware of the need to use renewable energy sources.	Brainstorming with information presentation through videos and referrals to various web resources.	Summarizing the outcome of the discussions
	Develops innovative solutions to environmental problems arising from energy use.	Working in groups, brainstorm a specific problem scenario or issue.	Presenting different and innovative ideas in brainstorming
	Increases awareness about sustainable and responsible energy consumption.	Knowledge transfer through group discussions and peer learning on sustainable energy use.	Summarizing the results of the discussions in a text
	It can calculate the electrical energy consumed at home on a daily, monthly and annual basis.	Discuss and calculate the amount of energy used in any household in groups using a worksheet/table.	With the peer evaluation method, each participant evaluates each other's calculations.



	Explains the basic features of the Energy3D program.	Sharing information about the program through the website and videos.	The level of knowledge about the Energy3D program is evaluated using the question-answer technique.
	Designs a basic prototype house with the Energy3D program.	Drawing a house on a worksheet and creating the simulation in the Energy3D program in groups through videos and mentoring.	The drafts drawn on A4 paper or poster board are compared with the designs made in the Energy3D program and their similarities / differences are discussed.
	You can create different home designs that benefit from solar energy in the Energy3D program.	Trying different designs in the Energy3D program through discussion and brainstorming.	Different designs that provide the required electrical energy are evaluated through group discussion including peer evaluation.
	With the Energy3D program, you can perform energy measurement and cost analysis using solar energy.	Measuring the amount of energy required for the designed house in the Energy3D program and calculating the cost to be spent.	Using a worksheet, different amounts of electrical energy consumption are calculated. In addition, cost calculations are made according to current market values for the solar panel installation that provides the required energy.
	It creates a solar energy design that produces electrical energy as needed on a daily, monthly and annual basis.	Developing appropriate designs and making measurements in the Energy3D program for structures or spaces with different daily, monthly and annual needs as a group.	Using a worksheet, the amount of electrical energy provided by solar panels is calculated daily, monthly and annually. In addition, graphs are drawn that reflect the energy measurement that changes over hours, days and months.
Interactive Learning Tasks, Gamification/Nudging/Online	About renewable energy energy	H5P-task – true-false	Assessment through interactive tasks
	Renewable energy related to species	H5P-task – puzzle	Assessment through interactive tasks
	Areas where solar energy is used	H5P-task – drag words	Assessment through interactive task
	About the Energy3D program	H5P-task – drag words	Assessment through interactive task



	Evaluation of designs in Energy3D program	H5P-task – question set	Assessment through interactive task
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