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Bailey Tischer, a Junior from San Tan Charter School in Gilbert, Develops Working Electroporation Device

Bailey Created the Device, Which Sends a Split Second of High Voltage Electricity into a Vial Containing Cells, Causing the Cells' Membranes to Open and Allowing Antibiotics to Enter

GILBERT, Arizona—School science fairs often feature dioramas about Thomas Edison and electricity, poster boards that explain how crystals grow and the always popular vinegar and baking soda volcano.

Bailey Tischer, a 16-year-old junior from San Tan Charter School in Gilbert, has taken her school's science fair project to a whole new level with an experiment that may have a real impact on the way diseases can be treated.

Bailey, who is in the school's gifted program, developed her own electroporation device for the event.

In the real world, this type of device is worth about $2,000. Bailey figured out how to make a working model for $2.

As Bailey explained, an electroporation device is an instrument used to send a split second of high voltage electricity into a vial containing cells in an attempt to open the cellular membrane of the cell, thus allowing vital antibiotics to enter it.

"In theory, this research can help cure diseases and illnesses at a much faster rate," Bailey said adding that she created her first circuit-based electroporation device in 2019.