

The image features four cartoon characters. At the top left is a girl with long black hair, a green headband, a white t-shirt with a globe logo, and khaki pants. At the top right is a man with brown hair, glasses, a white lab coat, a red tie, and a gold watch with a 'G' on it. At the bottom left is a boy with a red cap, sunglasses, and a red vest. At the bottom right is a boy with a red cap, sunglasses, and a red vest, holding two yellow tools. They are all standing on a blue and purple grid pattern that resembles a solar panel.

**SAVY &
SQUANDER**

LEARN ABOUT

**SOLAR
POWER**

WITH EMERALD AND DR. E

Georgia Power has created this storybook to enrich your child's reading experience. The content is aligned with Georgia's second-grade state standards for science, reading and social studies, and teaches about the world of energy efficiency and using energy wisely. The concepts are brought to life through four Learning Power characters: Dr. E, Emerald, Savvy and Squander. Resource pages with questions, standards and vocabulary can be found on page 16.

Georgia Power's Learning Power program is a statewide education initiative designed to bring energy education into the classroom. Please visit learningpower.org to learn more about our program.





Savvy and Squander were excited to be waking up in a tent! Their friend, Emerald, had invited them on a camping trip and it was time to get the day started.

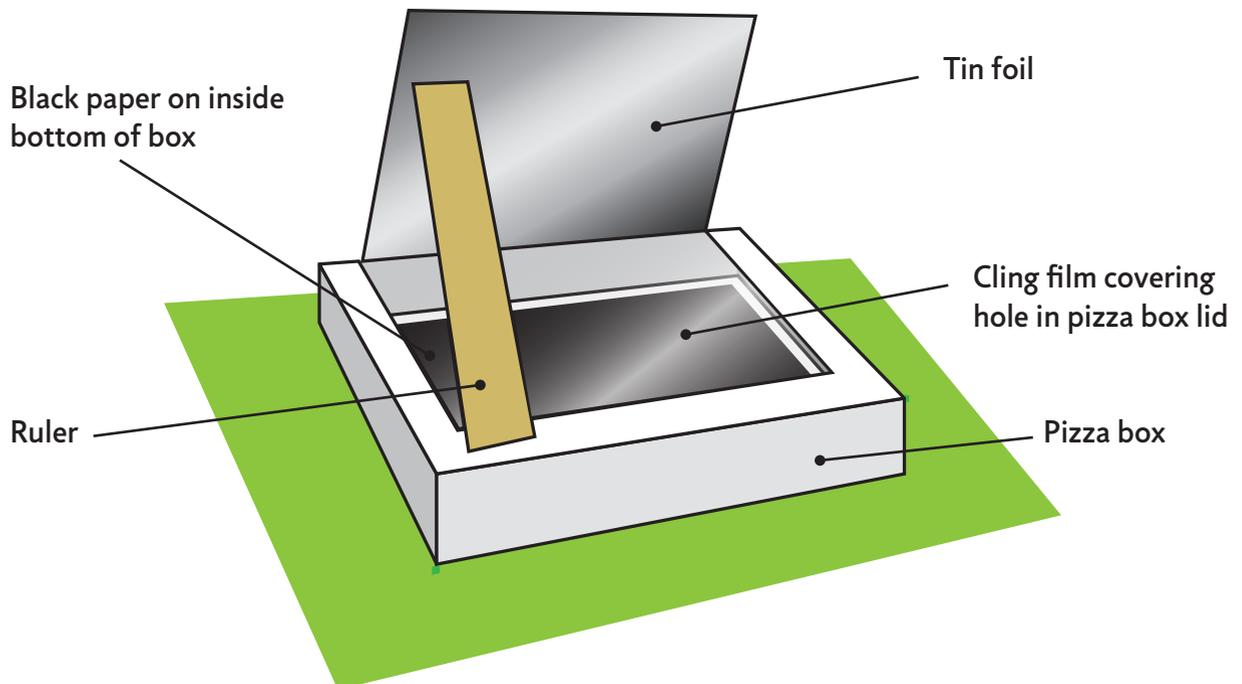


The plan for the day was to go on a hike, but first Emerald said they should explore different uses of the sun.

“Solar energy is renewable, which means more is made within our lifetime,” said Emerald. “Using solar energy helps us save money and other sources of energy.”

Emerald explained to Savvy and Squander that solar energy can also be used in many different ways, including making solar ovens.

The solar oven is made of special materials that transfer energy to cook food. Cooking this way takes longer than in a kitchen oven, but when left in the bright sunshine, the sun's energy helps cook food like grilled cheese sandwiches, s'mores or pizza.





Savvy and Squander finished making their ovens and left them on a picnic table while they took a hike.

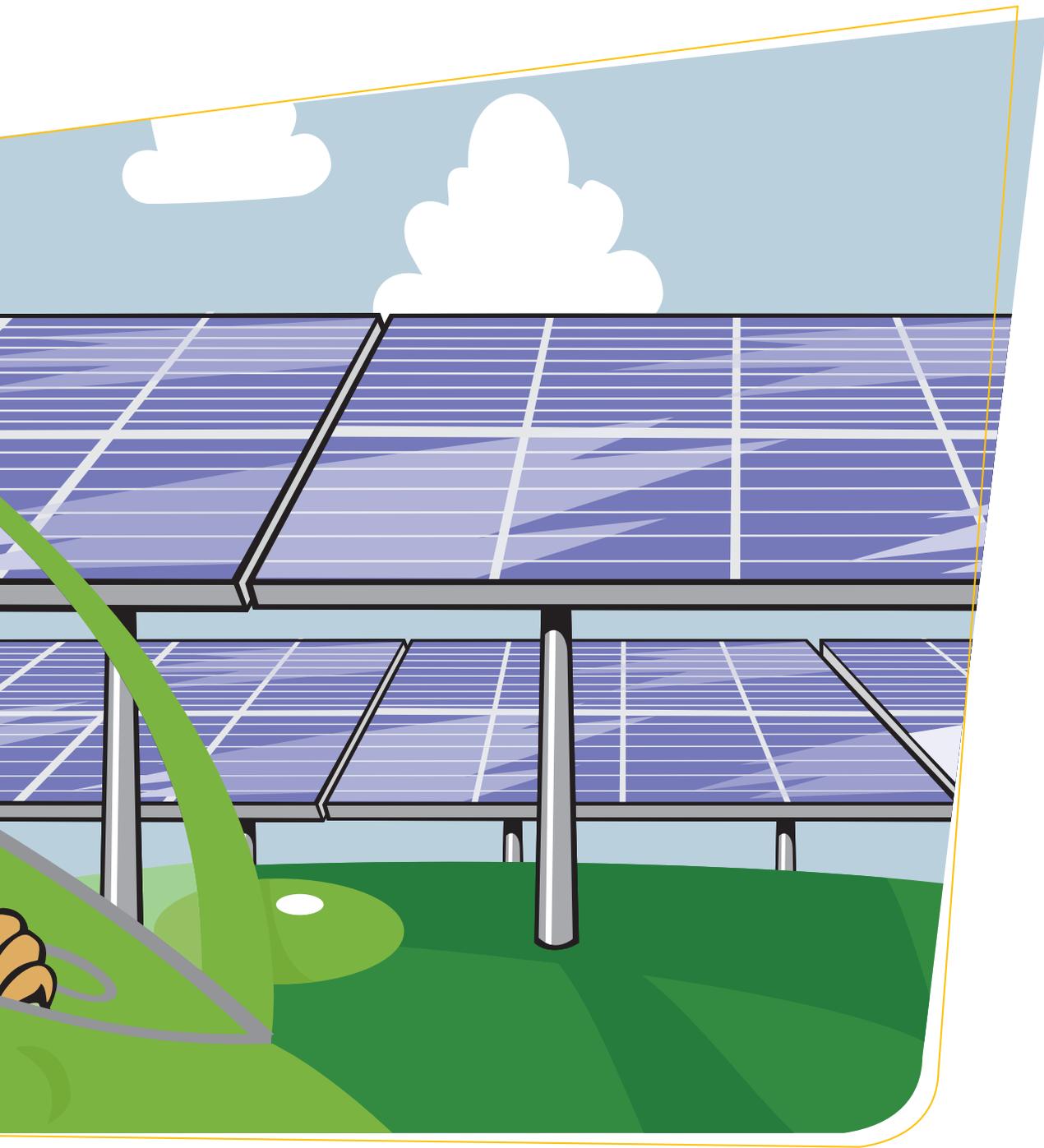


When they arrived back at the site, their grilled cheese sandwiches and s'mores were cooked and ready to eat.

Now it was time to head home after a fun weekend with Emerald!



As they were riding along, Savvy noticed a field full of shiny panels that looked like dark glass. "What is that, Emerald?" Savvy asked.



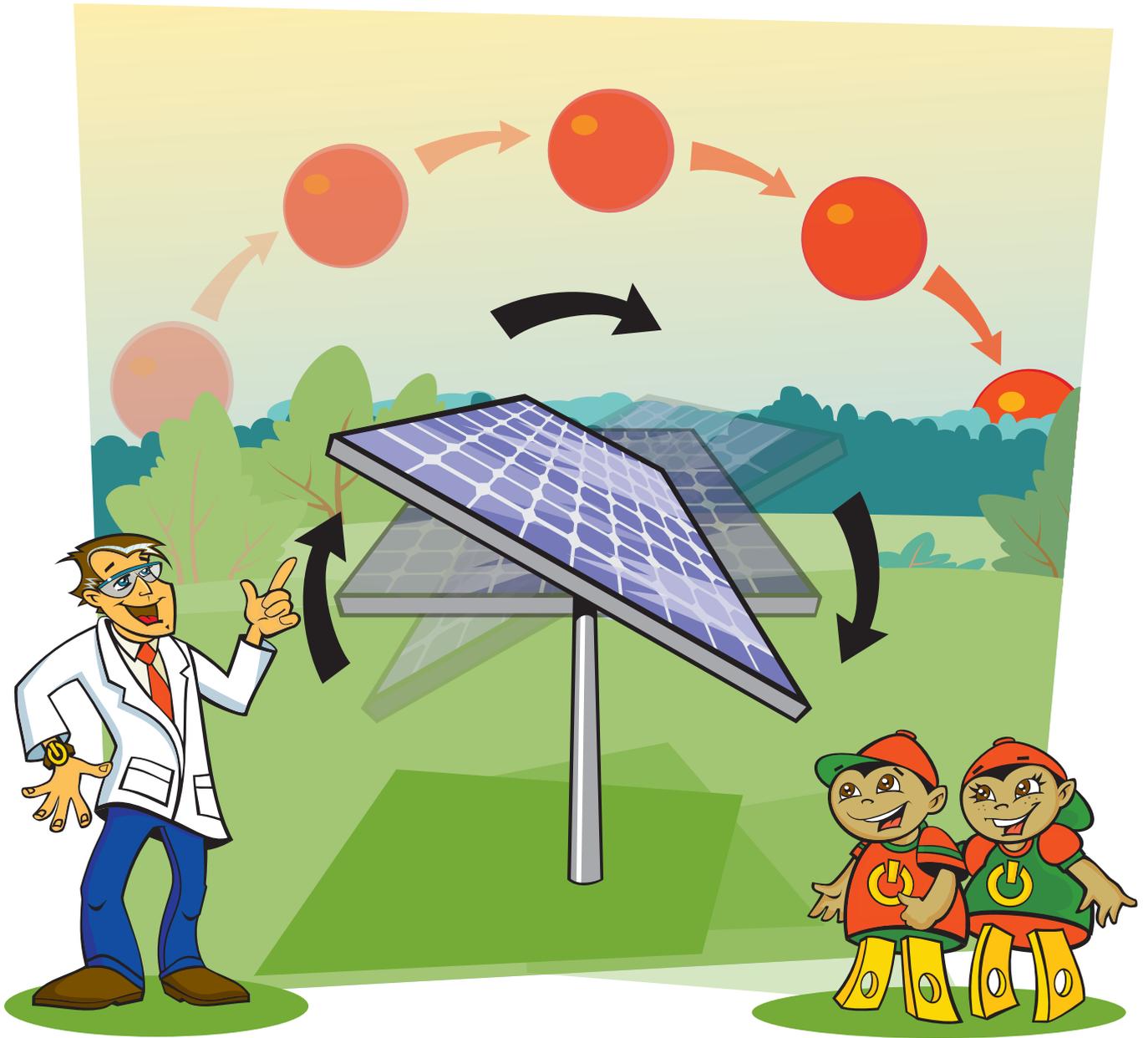
“Solar panels!” exclaimed Emerald. “It’s a solar farm, where energy from the sun is collected using all those shiny panels.”

Emerald said she had a friend who worked at the solar farm, and maybe he would show them around.

Emerald's friend happened to be someone that Savvy and Squander knew. It was Dr. E – a member of the Watt Squad!

Dr. E showed the kids the big solar panels that were used to collect the sun's energy. He explained that most solar panels on houses are fixed in one direction, but the panels on the farm can rotate in the direction of the sun.

This allows them to collect the most energy possible.



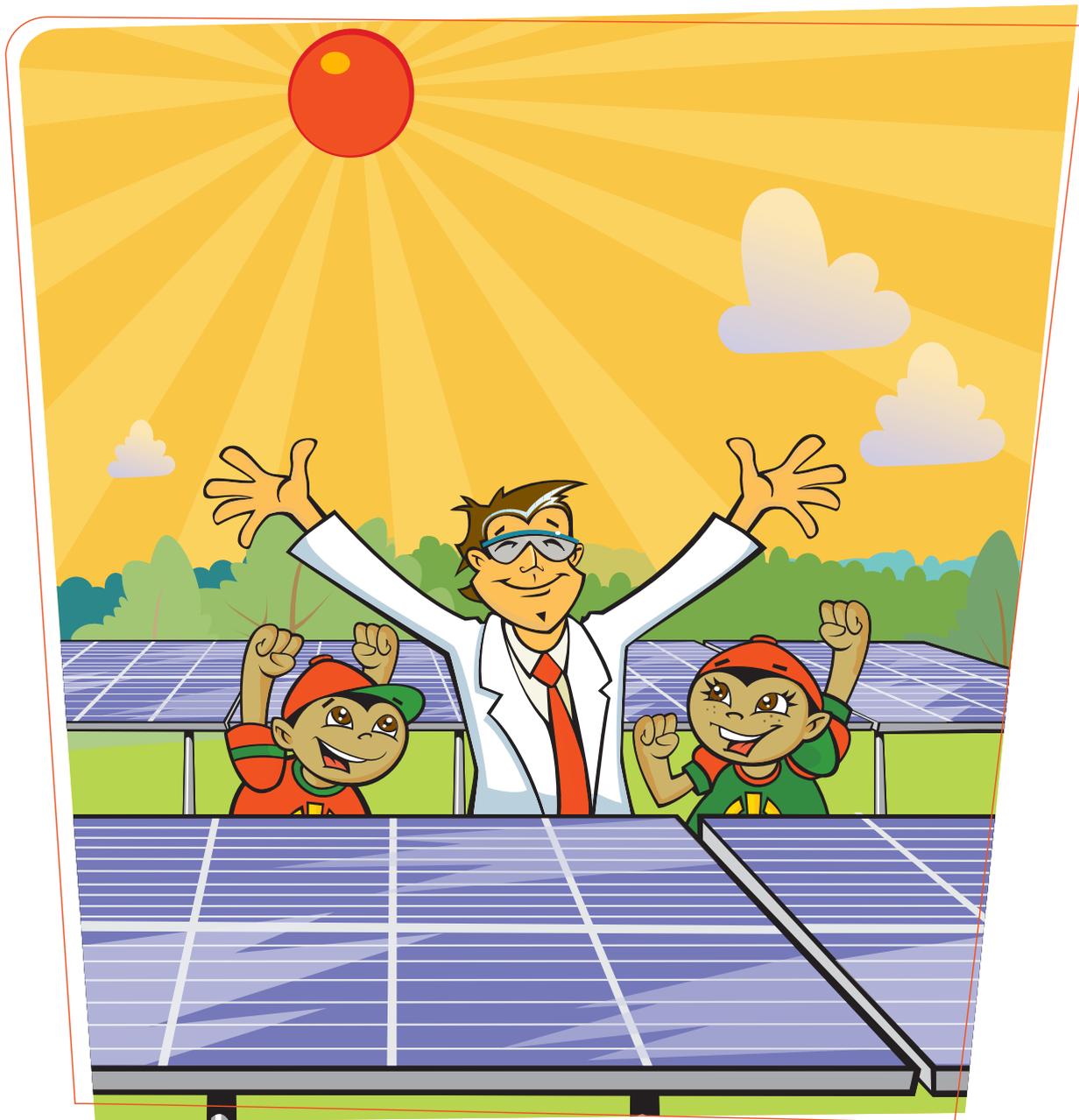


Savvy and Squander asked why this farm needed so many panels.

“The sun’s energy is collected here and is then connected to Georgia Power’s energy grid, which allows it to be used in many homes, schools and businesses,” explained Dr. E.



“On a house, the panels would be smaller and there would be fewer since the house would not need as much power as this farm produces,” explained Dr. E.



Dr. E showed them all around the field of solar panels, and they could hardly believe how cool it was to watch the panels slowly follow the sun's brightest rays.

Emerald reminded Savvy and Squander that solar energy has many uses. Using solar energy reduces the amount of fossil fuels needed to generate electricity.

Squander wondered why solar energy has not replaced all other forms of energy, since it is renewable.

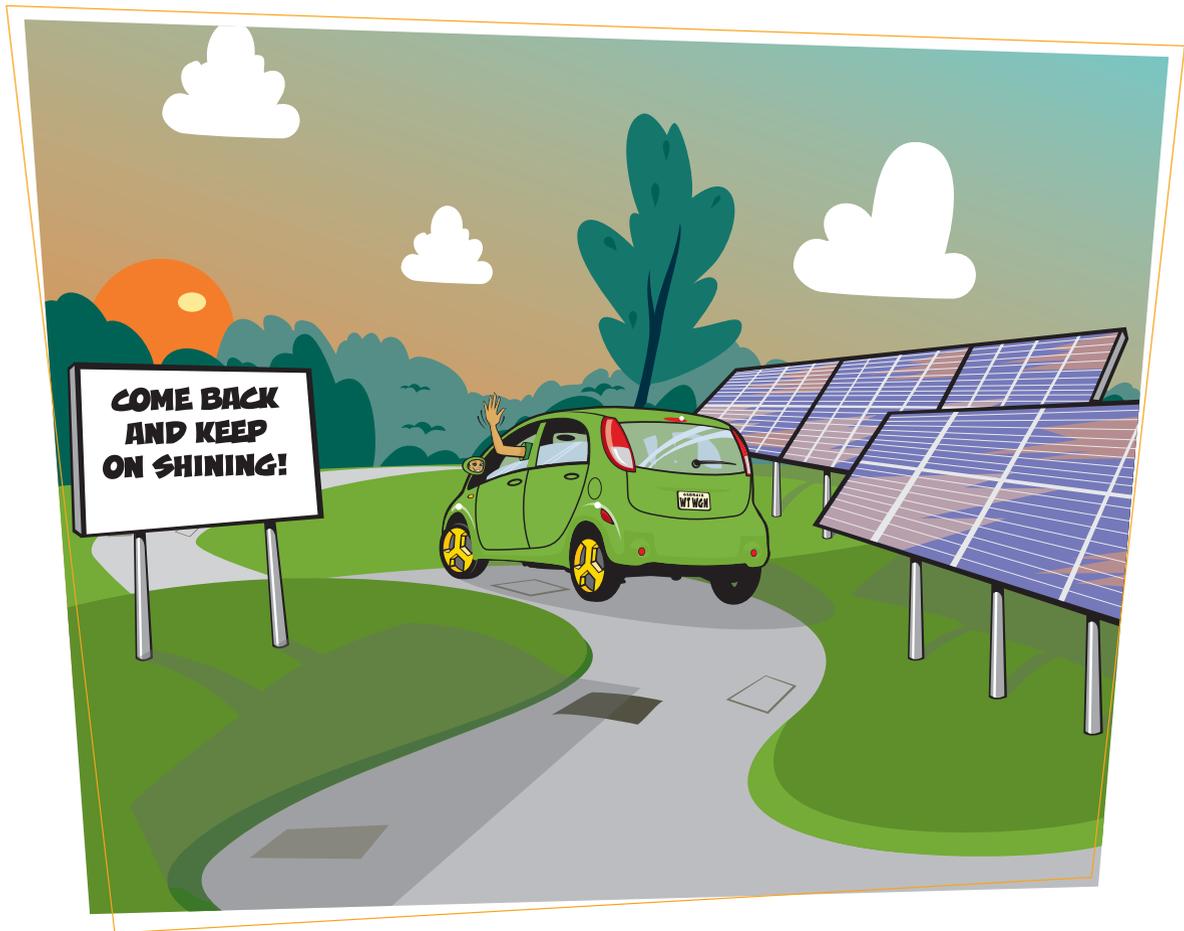
Dr. E reminded Squander that it takes a lot of land and money to build solar farms.

Emerald then mentioned that solar energy cannot be collected at night or when it's cloudy. So, electric utilities – like Georgia Power – use solar energy in combination with other forms of energy.



As they were leaving the farm, Dr. E gave Savvy and Squander a pair of Georgia Power sunglasses to remind them of their visit to the solar farm.

On the ride home, Savvy and Squander talked about all they had learned about solar energy and how to use it wisely.



Savvy and Squander agreed they would turn off games and computers when not using them, and when possible, they would use light from the sun to save money and other resources.

They also agreed on the bright idea to teach others how to be energy efficient and use energy wisely!

2nd Grade Lesson

Part 1: Introduction (Energy Efficiency)

Part 2: Guided Reading

Part 3: Solar Activity

Part 4: Conclusion

Objectives

Students will be able to:

- Explain uses of solar energy
- Define renewable energy
- Explain the importance of energy efficiency
- Tell ways to save energy

Essential Questions

- How can we use solar energy?
- Why is it important to be energy efficient?

Materials

- **Book** – *Savvy and Squander Learn About Solar Power with Emerald and Dr. E*
- Solar beads/string, **OR** nature print paper, **OR** solar paint and white paper, **AND** solar glasses
- Activity sheet

Standards of Excellence

- **ELAGSE1RI4** – Ask and answer questions to help determine or clarify the meaning of words and phrases in text.

Vocabulary

Renewable – A resource that we cannot use all of in our lifetime that can also be replaced

Solar Energy – Energy from the sun

Energy Efficiency – Using energy and technology wisely; using less energy to provide the same level of performance, comfort, convenience or light



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