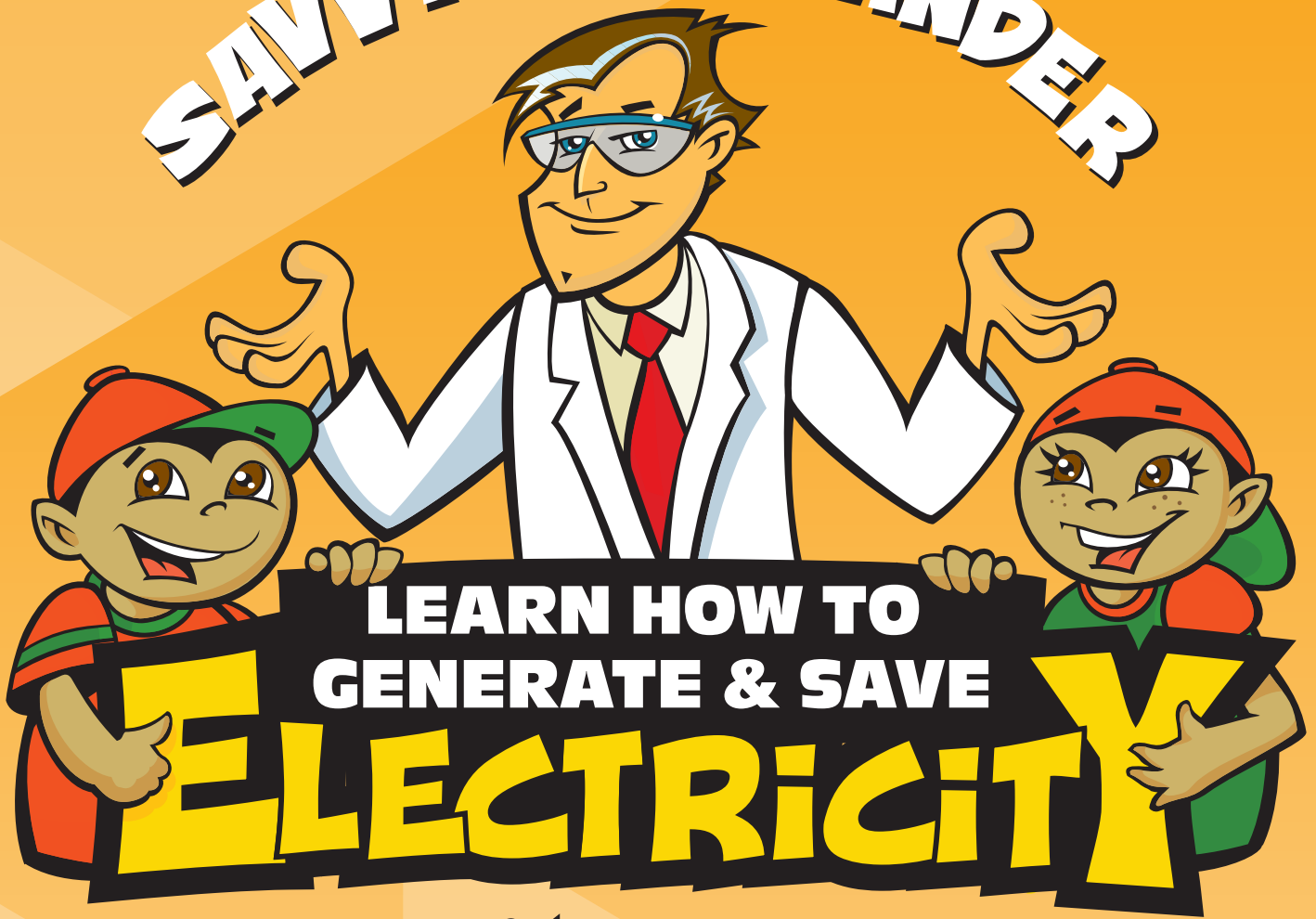


SAVVY & SQUANDER



**LEARN HOW TO
GENERATE & SAVE**

ELECTRICITY

With Dr. E

Georgia Power has created this storybook to enrich your child's reading experience. The content is aligned with Georgia's state standards for science, mathematics, 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. A resource page with questions, standards and vocabulary can be found on page 14.

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.

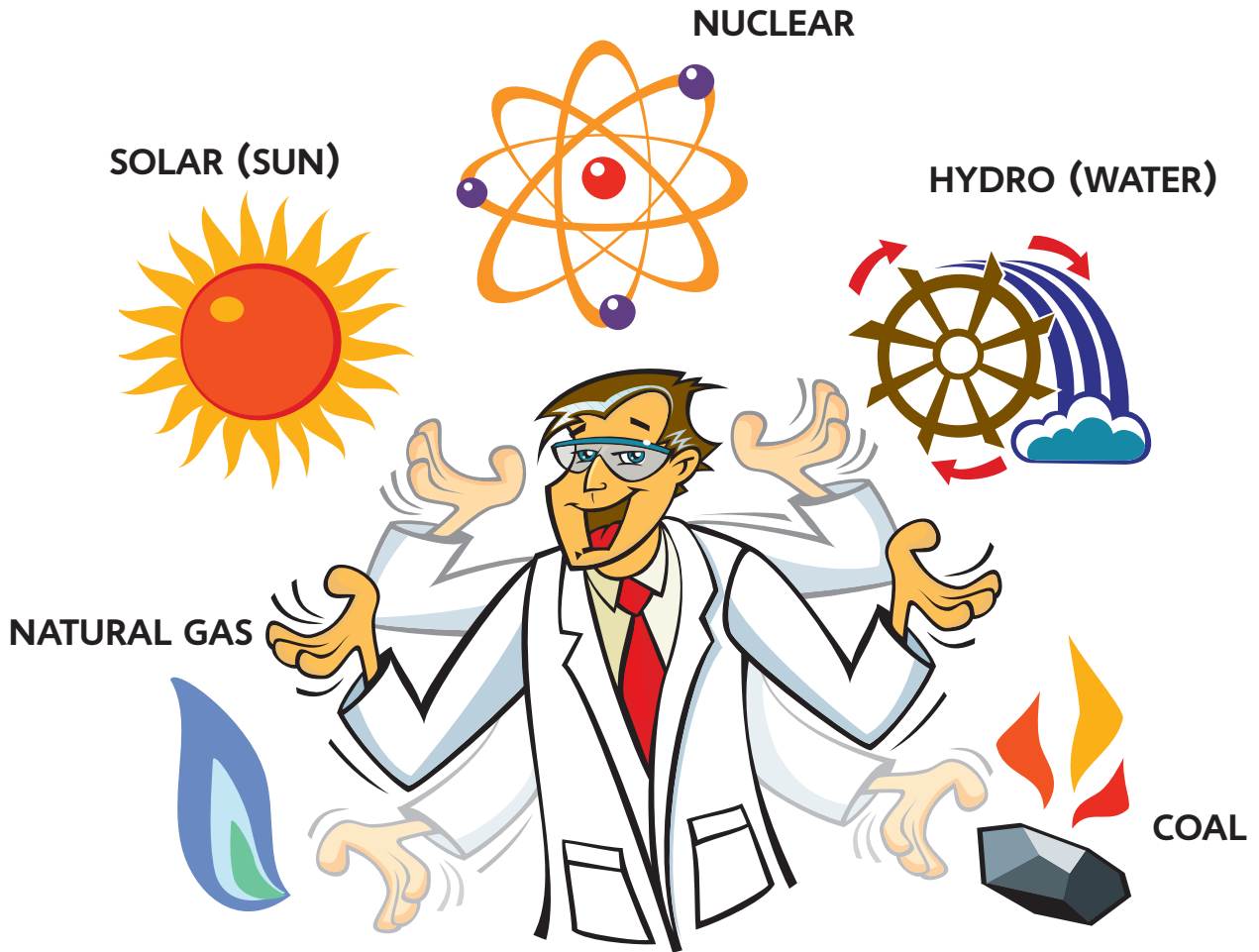




Savvy and Squander woke up happy.
Today, they were going to visit a power plant.
“Savvy, why are we going to the power plant?”
asked Squander.



“We are going to learn where our power comes from,” said Savvy. “This will help us to use electricity more wisely at home. We can start by turning off the lights when we leave. Dr. E will teach us more ways to save when we see him.”



Dr. E drove up and Savvy and Squander jumped in the car. On their way to the power plant, Dr. E told them about being energy efficient, which means using energy wisely.

He also told Savvy and Squander about the many resources that are used to generate electricity.

Today, they would visit a coal plant and learn how coal is used to generate electricity.



Soon, they arrived at the plant. They were excited about their tour.

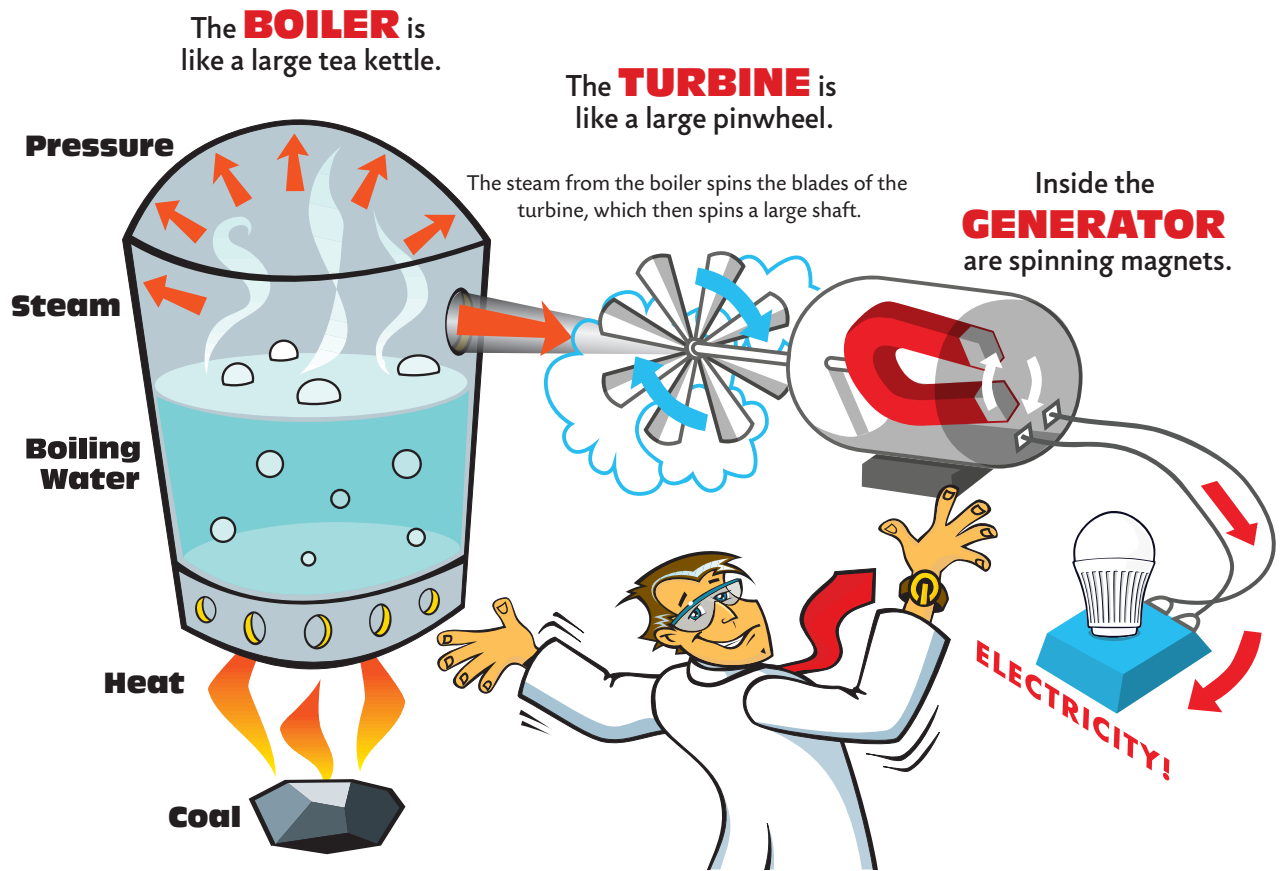




When they entered the plant, they had to make sure to follow the safety rules.

Dr. E said, "Everyone has to be safe at the power plant. They need safe clothing and gear called personal protection equipment, or PPE."

One of the workers showed them her hard hat and protection equipment.



Dr. E wanted Savvy and Squander to understand how electricity is generated.

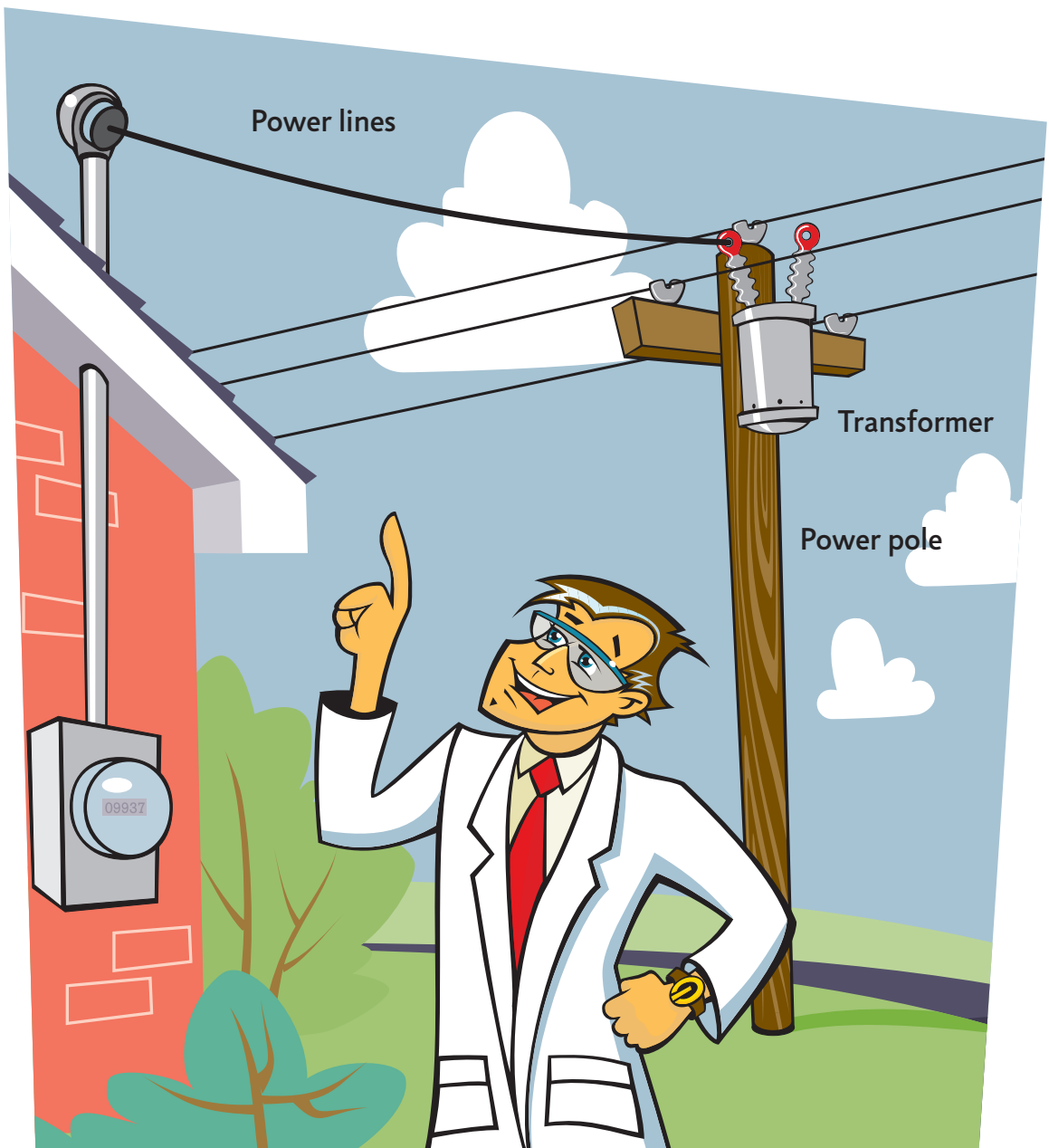
First, you burn coal to create steam in a boiler. A boiler is like a large tea kettle. The steam from the boiler turns a turbine that looks like a big fan that spins a motor with a magnet. This is called a generator. Inside the generator, there are big magnets and wire. The spinning magnets help generate electricity.



"Magnets attract metals – like copper. They are also used in a generator to produce electricity."

When electricity leaves the generator, it travels from the plant along wires. It passes through special equipment called transformers before it reaches homes, schools and businesses.

Transformers change the strength of the electrical current so that homes, schools and businesses receive the correct amount of electrical energy that they need.





The power lines that move the electricity can be seen along the side of the road, going from pole to pole. You can't always see the power lines because they might be underground.

As they drove from the power plant back to their home, Savvy and Squander counted poles. There were nearly one hundred poles that held up the power lines.

Dr. E said that Georgia Power takes care of the power lines. Electricity must travel many miles and Georgia Power makes sure that it gets safely to where it is needed.

“So the reason we have power plants is to generate electricity for our homes?” asked Savvy.

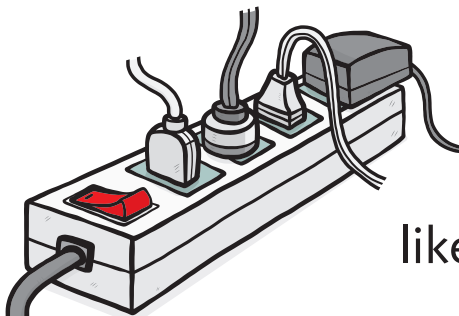
“Yes, you are right,” said Dr. E. “And to make sure there is enough electricity for all of us, we need to save energy when we can. Let’s take a look at some energy-efficiency tips to help us save energy.”



We can replace old appliances with energy-efficient appliances.



We can replace old light bulbs with smart bulbs.



We can plug electronics, like video games and computers, into smart power strips.



“If we save energy, it will last us for a lifetime,”
said Savvy.

Dr. E smiled. He could see that Savvy and Squander
understood the importance of energy efficiency.

1st Grade Lesson

Part 1: Introduction (Energy Efficiency)

Part 2: Guided Reading

Part 3: Magnetic/Non-magnetic Activity

Part 4: Conclusion

Objectives

Students will be able to:

- Explain the importance of energy efficiency
- Tell ways to save energy
- Identify magnetic objects (that attract) & non-magnetic objects (that repel or do not attract)

Essential Questions

- What objects and materials will a magnet attract?
- What objects and materials will a magnet repel?
- What are some ways to save energy?

Materials

- **Book** – *Savvy and Squander Learn How to Generate and Save Electricity with Dr. E*
- Large horseshoe magnet **AND** a bag of magnetic/non-magnetic objects
- Activity sheet

Standards of Excellence

- **ELAGSE2RI6** – Identify the main purpose of a text, including what the author wants to answer, explain or describe.
- **S1P2b** – Plan and carry out an investigation to demonstrate how magnets attract and repel each other and the effect of magnets on common objects.

Vocabulary

Electricity – A form of energy that we use to power TVs, computers, lamps, and other things

Boiler – A tank that is used to heat water and create steam

Generate – To produce (something) or cause (something) to be produced

Generator – A motor with spinning magnets and wires that generates electricity

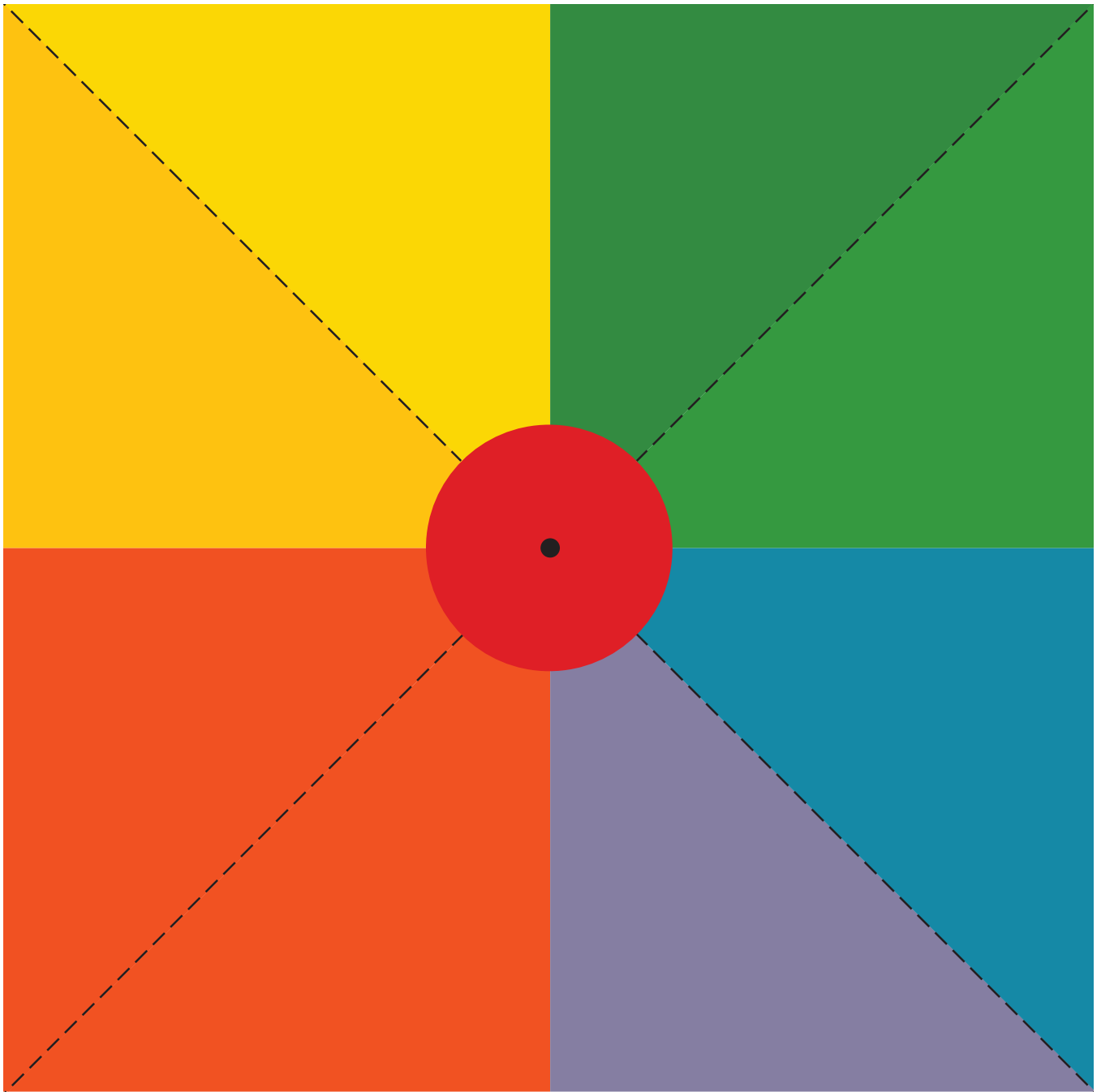
Transformer – Special equipment that helps electricity reach homes, schools and businesses

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

Turbine – A big fan that spins a motor with a magnet

Attract – A pull between two magnets or a magnet and a magnetic object

Repel – A push between two magnets



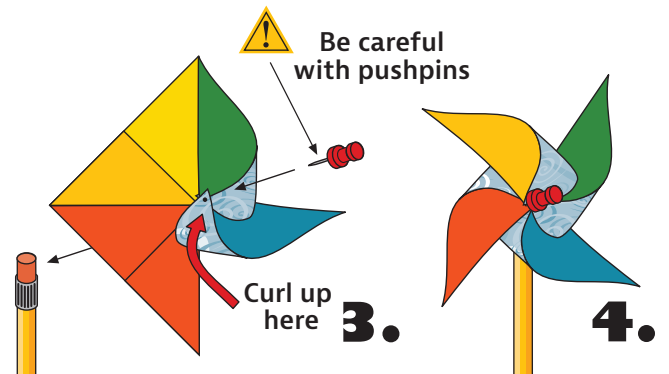
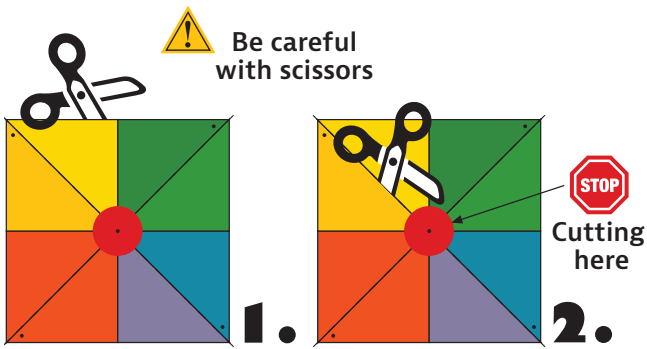
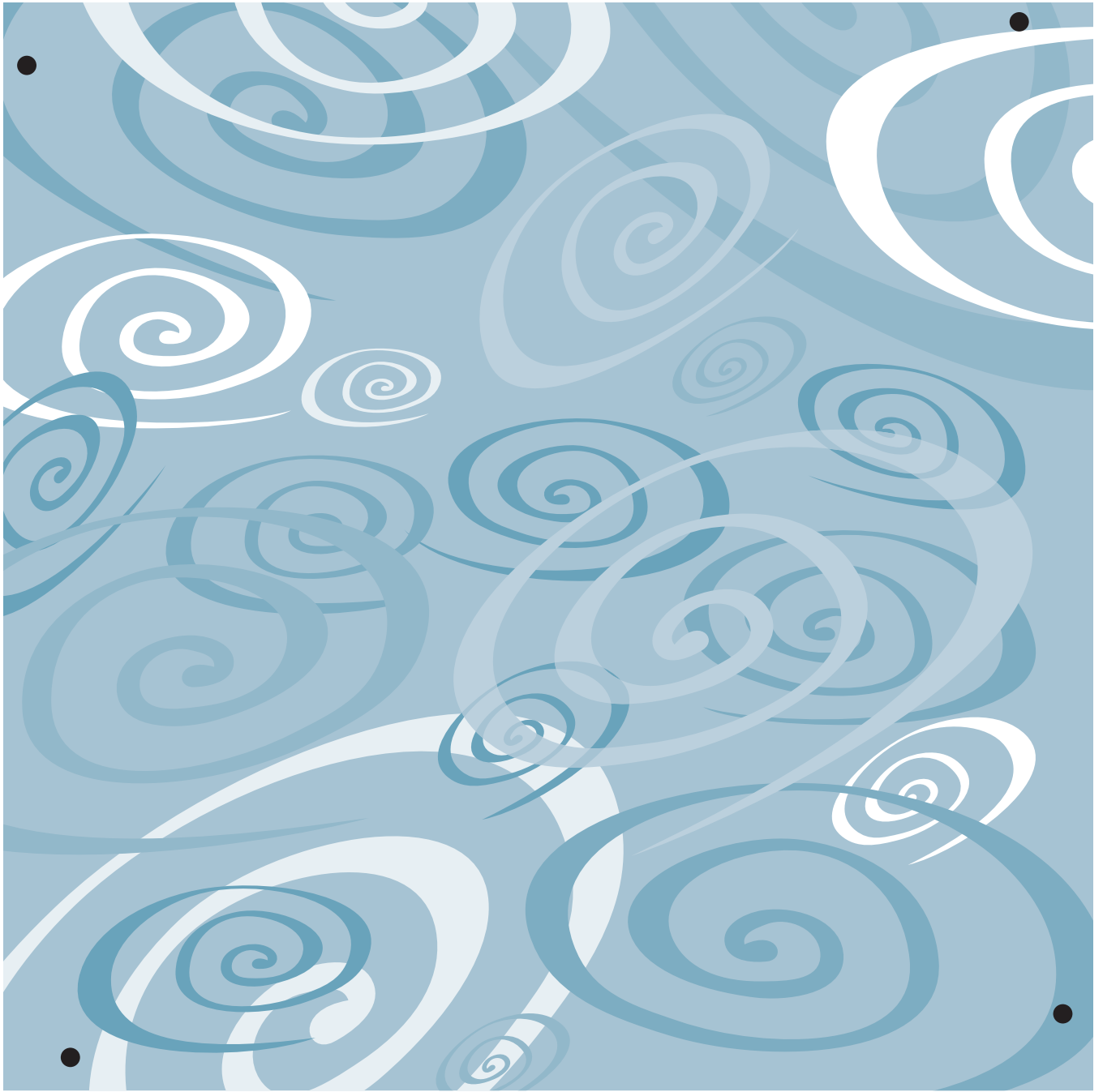
The turbine of the power plant works a lot like this pinwheel. Ask your parents or teacher to help you make your own pinwheel. You can pretend it is a part of your very own power plant!

Pinwheel Instructions:

1. Cut out the colorful square.
2. Cut along the dotted lines. Stop at the red circle in the middle.
3. Bring the triangles with the black dots (on the reverse side) to the black dot in the center of the red circle.
4. Carefully push a pushpin through all four dots on the points into the eraser of a pencil.

(Picture instructions are on the back of this page.)







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