

Printable Student
Activity Packet



OPERATIONAL ENERGY

INNOVATION FOR KINDERGARTEN



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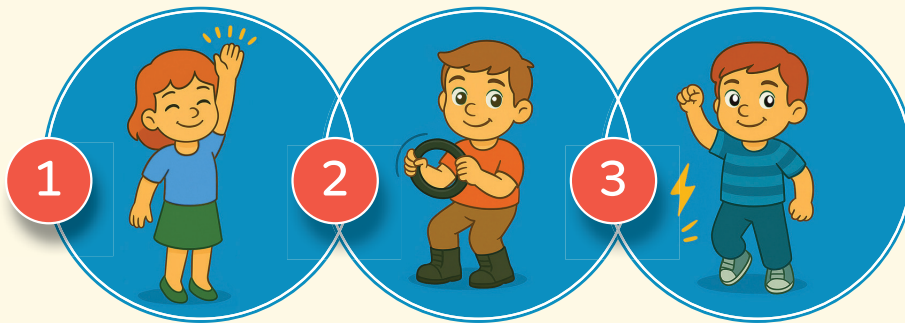
Chapter 1 – Activity

"Move Like Energy" Game

Objective: Help kids understand that energy makes things move.

Activity: Have the kids act out different forms of energy by moving their bodies!

1. Solar energy: Slowly stretch and "grow" like a sunflower.
2. Fuel energy: Pretend driving a car, flying a plane, or steering a ship.
3. Battery energy: Hop in place until their "battery" runs out, then "recharge" by resting.



"What Happens Without Energy?" Freeze Game

Objective: Show why energy is important.

Activity:

1. Have kids pretend to be military trucks, planes, or ships moving around.
2. When you call out "**NO ENERGY!**" they must freeze in place.
3. Ask them what happens when the military runs out of energy and how they can fix it.



Chapter 2 – Activity

"Energy Art" Craft Station

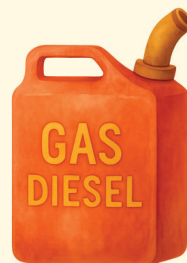
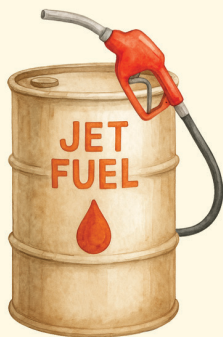
Objective: Let kids explore energy creatively.

Activity:

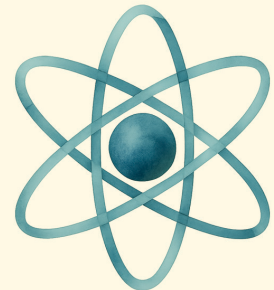
1. Provide coloring sheets or cut-out pictures of planes, ships, tanks, and solar panels.
2. Have kids glue "energy" (colored paper rays for sun power, small cotton balls for fuel smoke, etc.) to show how each one gets its energy.

Types of Energy

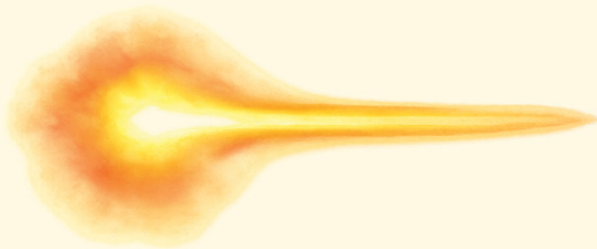
COAL



Fossil Fuel



Nuclear



Laser



Solar



Water



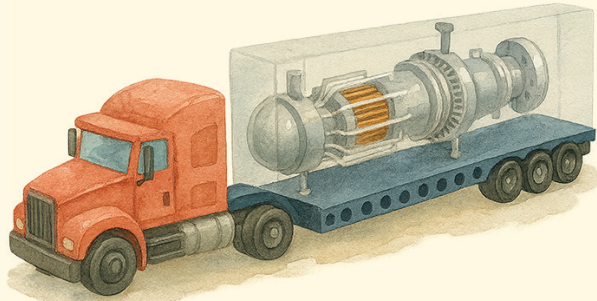
Electric



Steam



Energy Generation



Mobile Micro Nuclear Reactor



Nuclear



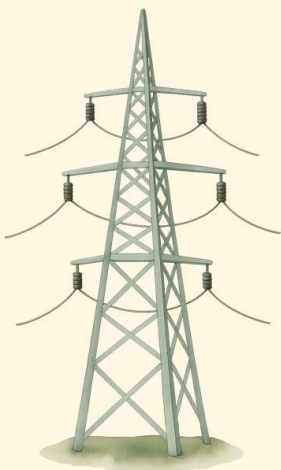
Solar Panel



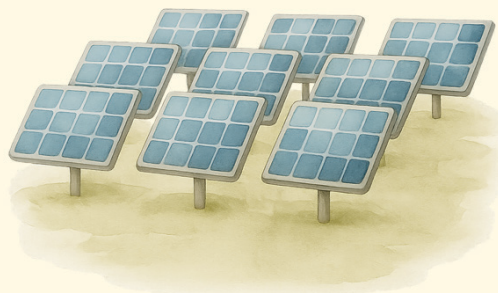
Hydroelectric



Power Station



Electrical Grid Tower



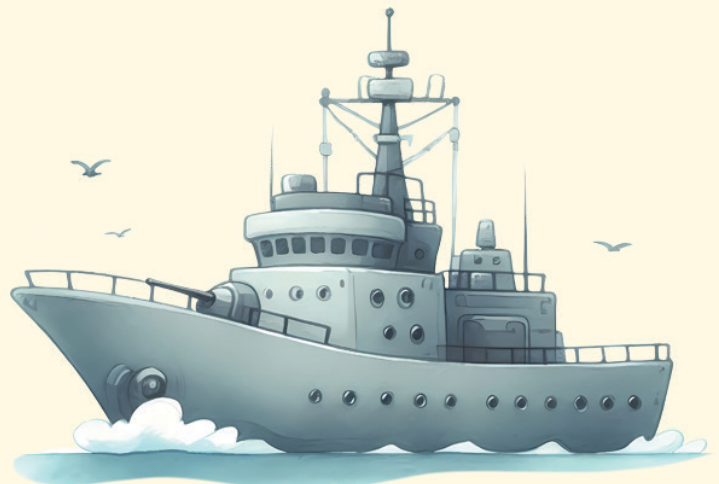
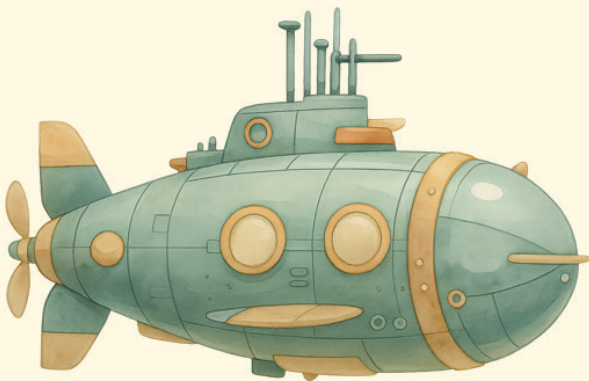
Solar Farm



Portable
Power Station



Vehicles that use Energy



Chapter 3 – Activity

"Energy Hunt" Scavenger Game

Objective: Teach kids about different energy sources in everyday life.

Activity:

1. Hide pictures or toy objects representing energy sources (solar panels, gas cans, batteries, etc.) around the classroom.
2. Give kids clues to find them and discuss how each one powers something.



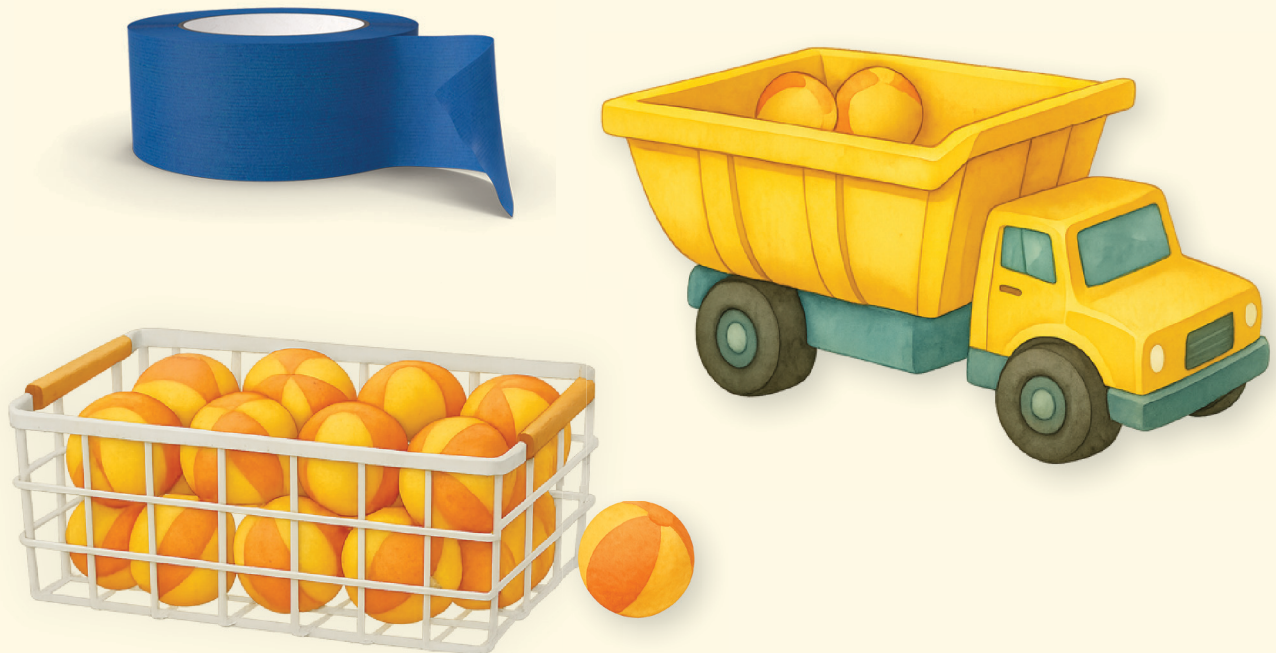
Chapter 4 – Activity

"Power the Military" Relay Race

Objective: Show how energy is needed to keep military vehicles moving.

Activity:

1. Set up stations for different military vehicles (trucks, planes, ships).
2. Kids run to each station carrying "fuel" (bean bags or small balls).
3. They "refuel" the vehicle by dropping in the bean bag, then running back to refill and keep going!
4. Talk about why the military needs to always have energy to complete missions.



Chapter 5 – Activities

Light It Up! Solar Power Experiment

Objective: Demonstrate how solar energy works.

Activity:

1. Give each child a small solar-powered toy or a flashlight with a solar-charged battery.
2. Take them outside and let them see how the sun makes it work.
3. Discuss how the military can use solar energy for power in different places.



Energy for Our Bodies Snack Time

Objective: Connect food energy to fuel energy.

Activity:

1. Give kids small snacks (like fruit or crackers) and explain that food gives us energy like fuel gives cars energy.
2. Ask them to act out being “recharged” after eating their snack.



Chapter 6 – Activities

#1 – Build a Better Toy Car!

Materials: Demonstrate how solar energy works.

1. Toy car or small box
2. Straws, paper, tape, and markers
3. Balloons (optional for extra fun!)



Instructions:

1. Have the kids decorate their "energy car."
2. Challenge them to make it go faster or farther using different materials.
3. Let them test and improve their designs, just like real innovators!

#2 – Energy Explorer Scavenger Hunt

Materials: A list of things that use energy (lamp, TV, fridge, computer, toy with batteries, the sun, etc.).

Instructions:

1. Kids walk around and find things that use energy in their home or classroom.
2. Discuss which ones need electricity, batteries, or even sunlight!

#3 – Idea Factory!

Materials:

1. Paper and crayons
2. A big piece of paper labeled "New Inventions"

Instructions:

1. Ask kids: "What's a problem you want to solve?"
2. Have them draw their invention idea (a robot that picks up toys, a flying backpack, etc.).
3. Let them explain their invention to the class!



Energy Explorer Activity

What kind of Energy Explorer do you want to be?

Energy Explorer Trading Cards

Instructions:

1. Use card stock for printing
2. Print "Card - Frontside"
3. Turn page over and print "Card - Backside"
4. Cut out Energy Explorer trading cards
5. After teaching the class about the various Energy Explorers, ask each child "What kind of Energy Explorer do you want to be? and pass out the card that corresponds to their answer.

1 Solar Energy Explorer – Army Engineer

Example: Army engineers use solar panels to help power equipment in the field so soldiers can stay safe and connected

Activity Idea: Have kids place a toy under a lamp and in the shade. Ask: "Which place gives it more light? How can we use sunlight to make power?"

2 Battery Energy Explorer – Air Force Pilot

Example: Air Force pilots need strong batteries to power their planes and keep their gear working during missions!

Activity Idea: Show two toy planes, one with a battery-powered light and one without. Ask: "Why is it important for pilots to have power that lasts?"

3 Nuclear Energy Explorer – Navy Ship Captain

Example: Many Navy ships use nuclear energy to power their engines, letting them travel the oceans for a long time without needing to refuel!

Activity Idea: Show kids a glow stick and explain that it has special stored energy inside. Ask: "How do you think energy hidden inside something can power a giant ship?"


4

Light & Optics Explorer – Marine Corps Night Vision Scout

Example: Marines use special goggles to see in the dark with the help of light, even when it's almost invisible!

Activity Idea: Dim the lights and shine a flashlight through colored plastic or tissue. Ask: "What colors can we see in the dark? How do night vision goggles help Marines on nighttime missions?"

5

Motion Energy Explorer – Army Tank Operator

Example: Soldiers who drive tanks need powerful engines to move across rough ground!

Activity Idea: Let kids roll toy cars on different surfaces (carpet vs. smooth floor). Ask: "Which one moves easier? Why?"

6

Water Energy Explorer – Coast Guard Rescuer

Example: The Coast Guard uses energy from water to power boats that save people during storms!

Activity Idea: Pour water over a toy wheel or paddle. Ask: "How does water help boats and machines move?"

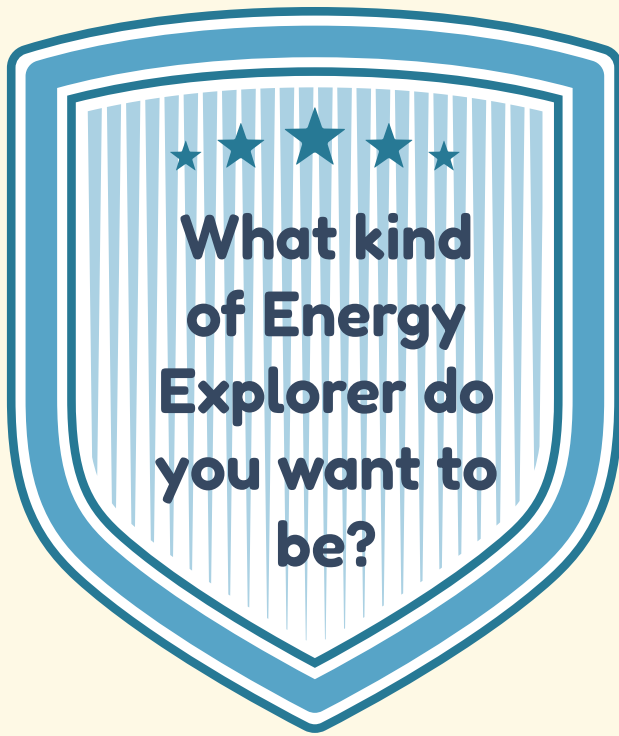
7

Space Energy Explorer – Space Force Engineer

Example: Space Force engineers help design solar panels for satellites so they can stay powered in space!

Activity Idea: Show kids pictures of the International Space Station with its big solar panels. Ask: "How does the sun give power to things in space?" Let them build a "solar satellite" using paper, foil, and craft sticks!

Card – Frontside





1

Solar Energy Explorer – Army Engineer

Example: Army engineers use solar panels to help power equipment in the field so soldiers can stay safe and connected.

Activity Idea: Have kids place a toy under a lamp and in the shade. Ask: "Which place gives it more light? How can we use sunlight to make power?"

Card – Backside

Energy Explorer Trading Cards

Instructions:

1. Use card stock for printing
2. Print "Card – Frontside"
3. Turn page over and print "Card – Backside"
4. Cut out informational cards

3

Nuclear Energy Explorer – Navy Ship Captain

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Extra Activities

How Much Energy Do We Have? Battery Level Stickers & Coloring Fun!

Objective: To help children understand the importance of energy for both themselves and the military by using battery levels as a fun, visual way to show how energy works, why it matters, and how to use it wisely.

Activity: Color in the batteries to show different energy levels!

1. A full green battery means plenty of energy—our heroes are ready to go!
2. A yellow battery means we're using up energy—time to be careful!
3. Orange: Low energy—almost empty!
4. A red battery means almost no energy—things might stop working!

You can also draw your own faces or symbols on the blank batteries to show how you feel when you have lots of energy or when you're tired!

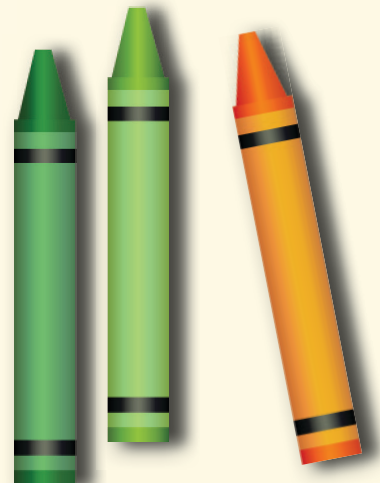
Teacher's Learning Tip:

Explain to the children that just like we need energy to run, play, and learn, the military needs energy to keep important machines like trucks, planes, and ships working.

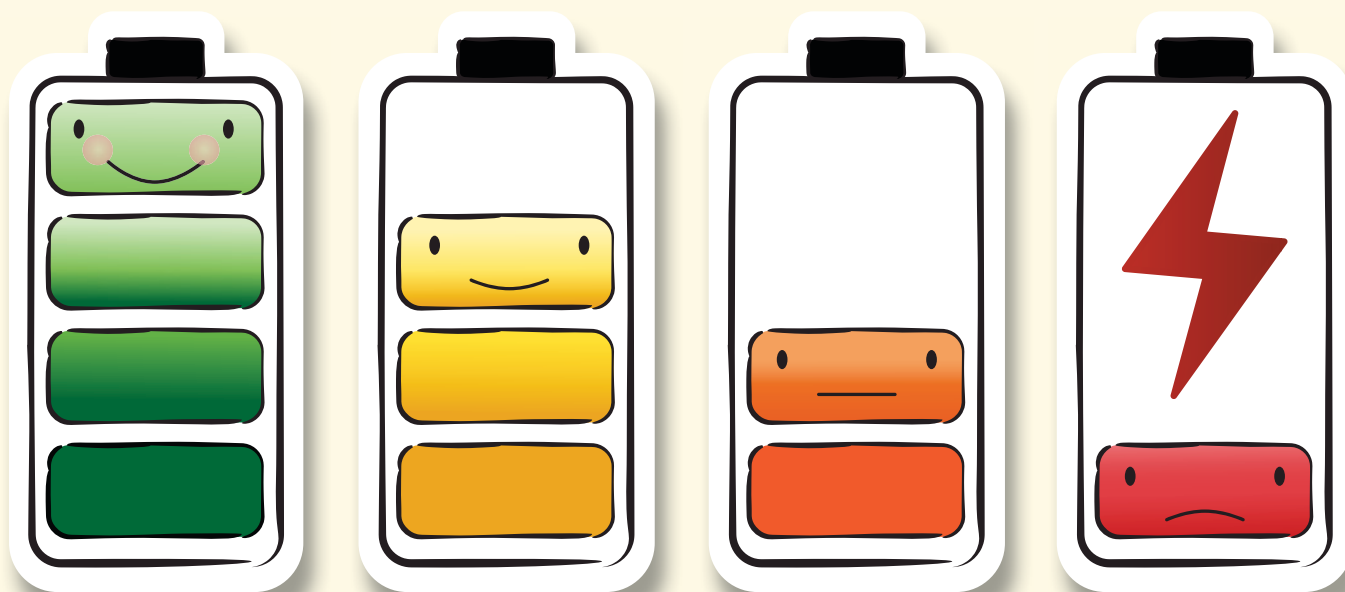
Use the battery levels to talk about saving energy and using it wisely—just like the military does with Operational Energy.

Encourage kids to think of ways they can “save energy” in their own lives (like turning off lights or walking instead of using a car).

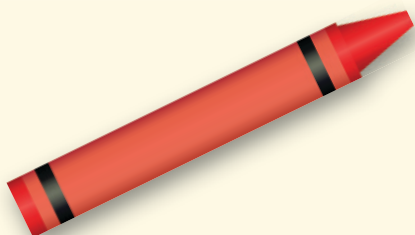
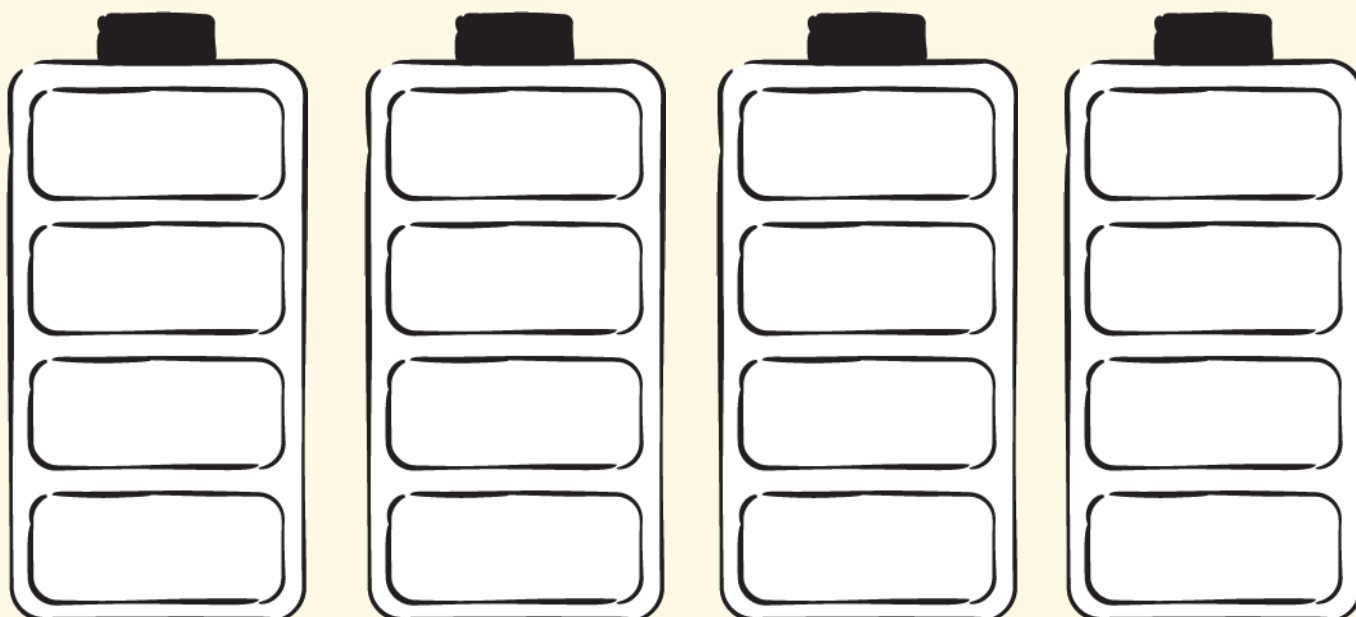
Reinforce the idea that when energy runs out (as shown in the red battery), important missions can't happen—so it's everyone's job to help conserve energy.



Stickers



Coloring Template



Use your crayon or your finger to trace the path through the maze.
Try to find the way to the yellow fuel truck at the END!

START



MATCH THE ENERGY!

Help the truck and solar panel find what powers them!





FIND THE PATH TO FUEL



WITHOUT FUEL THE SPACE

EXPLORER CAN'T TRAVEL!

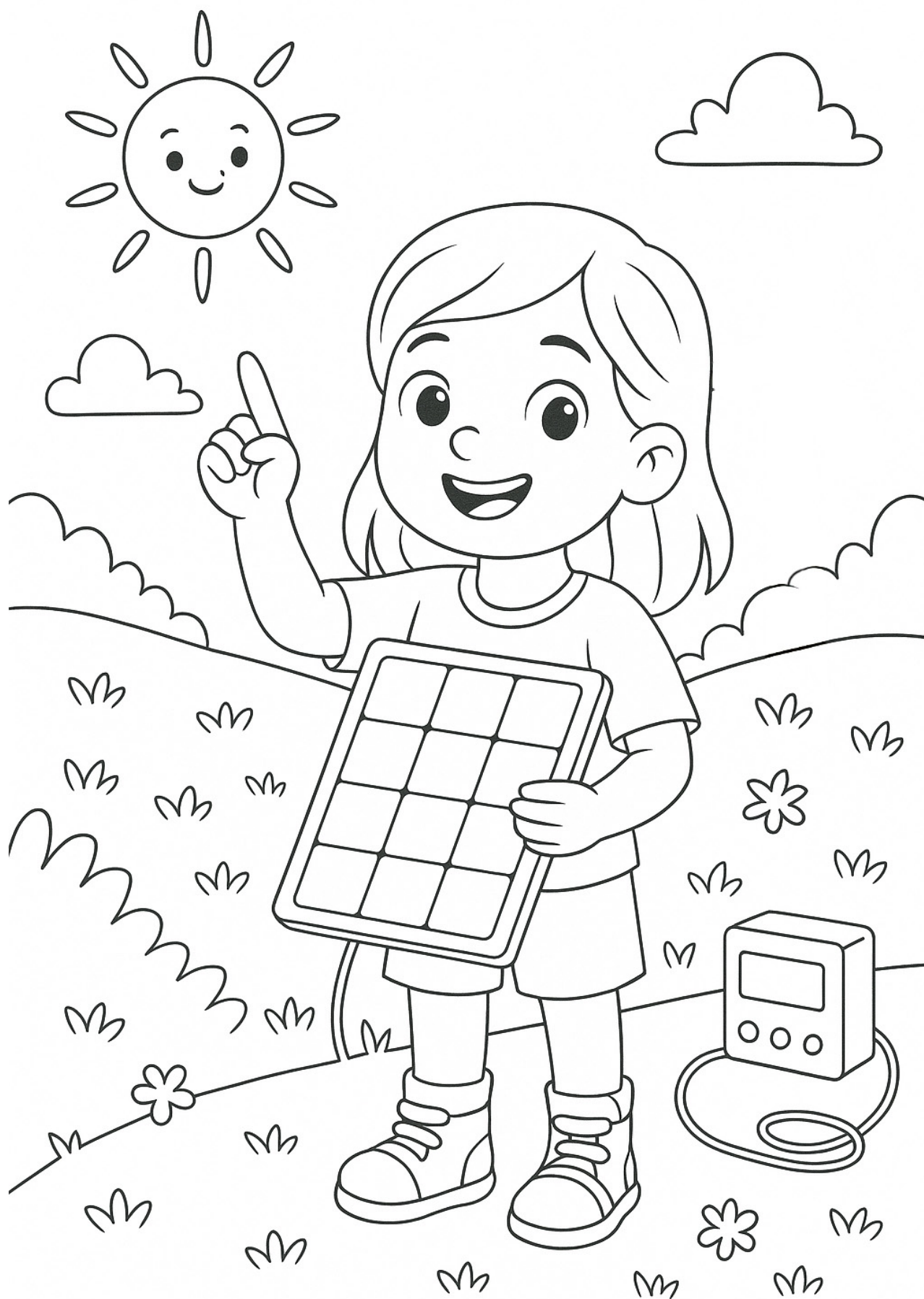


START

H TO FUEL THE ROCKET



Use your creativity to color the Solar Energy Explorer!



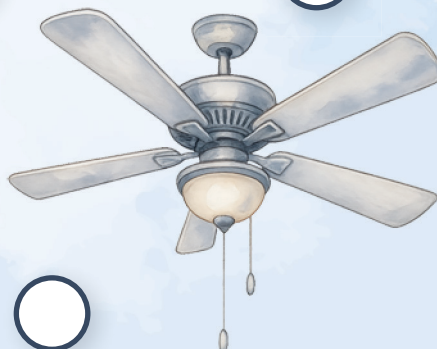
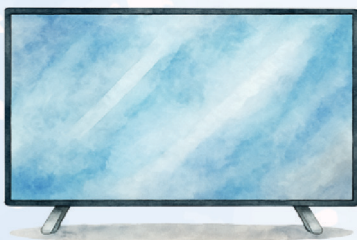
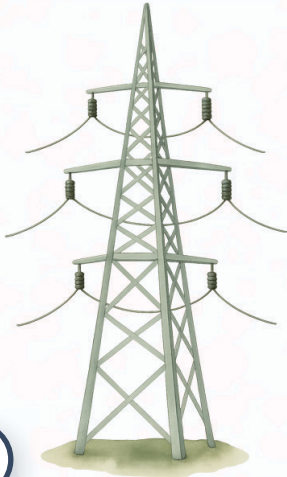
Use your creativity to color the Battery Energy Explorer!





Going on an **ENERGY SCAVENGER HUNT**

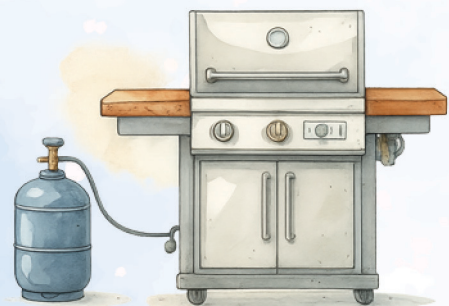
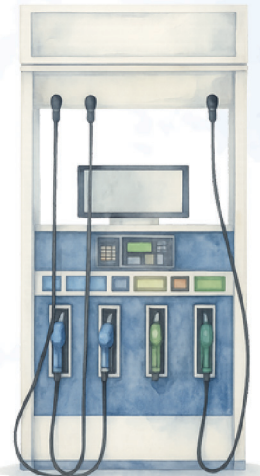
Check each off as you find it!



Going on an ENERGY SCAVENGER HUNT



Check each off as you find it!





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FOR ENERGY RESILIENCE & OPTIMIZATION

PROGRAMS:

OPERATIONAL ENERGY CAPABILITY IMPROVEMENT FUND (OECIF)
OPERATIONAL ENERGY PROTOTYPING FUND (OEPF)

