

ENERGY

Balance the Grid

PUZZLE

Duration: 25 min • Grades 6-8 • Facilitator-led

Overview

Students control a mini PA grid across a 24-hour cycle, dispatching solar, gas, and nuclear as demand shifts. A live dashboard shows blackouts, cost, and emissions.

Learning Objectives

- Explain supply and demand on the electric grid
- Compare tradeoffs between energy sources
- Interpret real-time data to make decisions

Materials Needed

- Browser device
- Shift-log worksheet

Facilitator Flow

- 1 Intro (3 min): 'You are the grid operator today.'
- 2 Practice run (5 min): a simple sunny day.
- 3 Full shift (12 min): 24-hour cycle with a heatwave event.
- 4 Compare (3 min): who kept the lights on cheapest?
- 5 Debrief (2 min): tradeoffs between reliability, cost, and emissions.

Want the full activity + facilitator guide?

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