



Can we save our school money while saving the planet?
Energy is expensive. Plus, using too much energy is bad for the planet. In this project, students will conduct an energy audit of their school to help the planet—and their school’s pocketbook. Then, they will design, test, refine, and share solutions to reduce energy consumption. Finally, students will pitch the costs and benefits of their solutions to stakeholders.
Imagine if thousands of kids just like yours, all around the country, started making smart choices about energy consumption and shared that knowledge with others. What an impact this would have on sustainability!



Start with why

Lesson 1: Fired Up!

Get your students fired up to save energy at your school with a dramatic science demonstration that shows them how NOT to burn through money. Then, lead students to reflect on the importance of saving energy at home and at school.



Think it through

Lesson 2: Applyin’ Some Knowledge About Energy

Energy is all around us, but we rarely consider how much of it we use. Play the “What Uses Watt” card game to encourage students to reflect on the energy consumption of common household appliances.

Lesson 3: “Watts” in Your Home

Dive into the mathematics of energy consumption by modeling how to perform an energy audit of your home. Then, have students calculate the energy use of their own homes. **MATH**

Lesson 4: “Watts” in Your School

Conducting an energy audit of the school can be daunting. Review energy efficiency, then explore how to conduct the audit as a class. This will prepare students to conduct the rest of it in small groups. **SCIENCE**



Work it out

Lesson 5: The Big Audit

Encourage self-management and responsible decision-making by letting students rove the halls, conducting energy audits to their little hearts’ content. Additionally, challenge students to construct an action plan for communicating their findings to a broader audience. **SOCIAL EMOTIONAL LEARNING**

Lesson 6: Analyze and Strategize

Encourage efficiency by having students review and analyze the results of their audits. They will use their analysis to craft the message for their action plan. **ENGLISH LANGUAGE ARTS SOCIAL STUDIES**



Fix it up

Lesson 7: Iterate the Action Plan

Students revise and refine their action plans as they work to create a powerful method to communicate their findings. Students must consider their audience to maximize persuasion!



Share your awesome

Lesson 8: Putting the “Action” into Action Plan

Students pitch their plans to an authentic audience as they strive to effect change in their school.

Suggested project time: **8 hours**





Cross-curricular Content

Math

OPERATIONS WITH DECIMALS

As students calculate the cost of the appliances, they will need to perform operations with decimals. Money gives a great real-world context for addressing this standard!
CCSS.MATH.CONTENT.5.NBT.B.7

English Language Arts

RESEARCH TO BUILD AND SHARE KNOWLEDGE

As students work through their audit, they learn about electricity and energy sources from books, hands-on research, charts and graphs, and electronic media.
CCSS.ELA-LITERACY.W.5.7

Science

PROTECTING EARTH'S RESOURCES

As students explore energy efficiency, they learn how to protect the earth's natural resources. **NGSS 5-ESS3-1**

Social Studies

BENEFITS AND COSTS OF INDIVIDUAL CHOICES

As students analyze their audits, they consider the costs of different changes to the school's energy usage, as well as the benefits.
NCSS D2.Eco.1.3-5

Social Emotional Learning

SELF-AWARENESS AND RESPONSIBLE DECISION MAKING

Students consider the development of moral reasoning and apply their understanding to the work they do in class.
CASEL CORE COMPETENCIES

Not teaching these standards?

Blue Apple projects include content connections for kindergarten through eighth grade. Go to BlueAppleTeacher.org to learn more!



Project Plan & Supplies

Kit Supplies

- Dollar Bill
- Incandescent bulb
- CFL bulb
- Wattage Meter

Online Resources

- "Which Bulb is Better?" Experiment Plan
- "What Uses Watt" Card Game
- Energy Efficiency Video (**YouTube 3:39**)
- Energy Usage Calculator
- School Energy Audit
- And so much more!



Real-world Connections

Bring the World to Your Students

- Learn from an Architect
- Lessons from an Energy Auditor
- Connect with an Energy Provider

Bring Your Students to the World

- Pitch the Principal
- Take it to the Capitol
- Be Talk-Show Worthy!
- Meet the Press



Collaboration Options

Making the Circuit

Gather support for your procedure by circulating a petition—but do it electrical-style! Draw a "circuit" of your school and pass the petition to the next class, with instructions for them to do the same. The petition must make a complete circuit to come back to your classroom and have real power!



Professional Development

Engagement Hooks

How can I increase student engagement with effective engagement hooks?

Connection and Rapport

How can I build connections and establish rapport with my students?

This is just the beginning!

Go online to access the complete project.

- Clear **learning targets** and **step-by-step instructions**
- Dozens of links to **supporting resources**
- **Mini-lessons** aligned to content standards
- **Videos and contact information** from industry experts
- **Ideas to collaborate** with other classrooms
 - Practical, point-of-use **instructional strategies**
 - Access to a grade-specific **Project Coach**



Get started at BlueAppleTeacher.org

