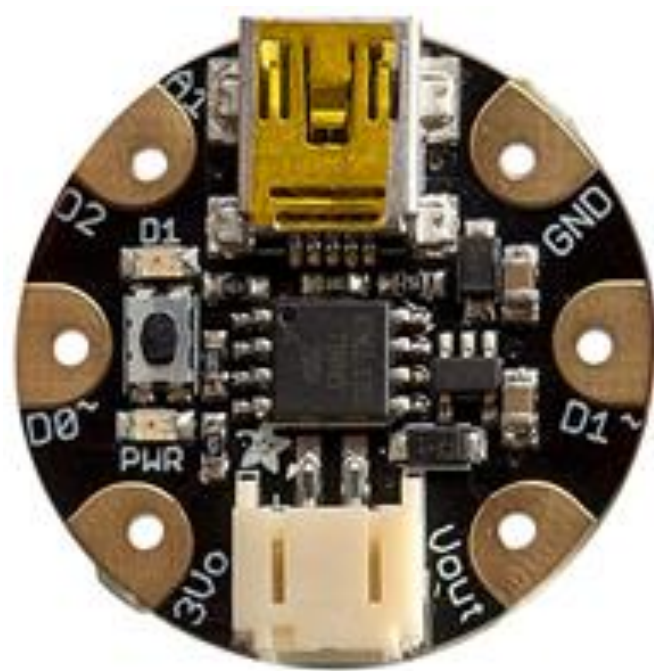


GOALS

- Link researchers, educators, consumers, and students.
- Create interest in STEM disciplines and careers.
- Illustrate issues necessary for public acceptance of smart energy technologies.
- Develop interactive activities and lessons.
- Encourage further learning.

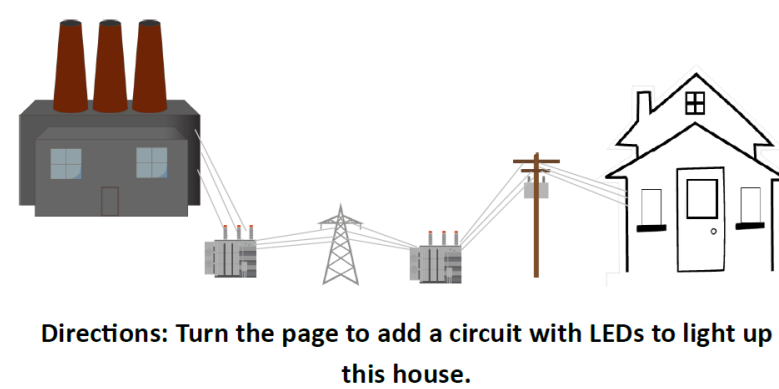
FUNDAMENTAL CHALLENGES

- Connect with middle school and high school teachers, students, and their families.
- Illustrate challenges, tradeoffs and decisions that affect energy system design and control.
- Educate for responsible use of new technologies:
 - Internet of Things.
 - Cloud computing.
 - Distributed generation.
 - Electric vehicles.
 - Increased integration of renewable energy.



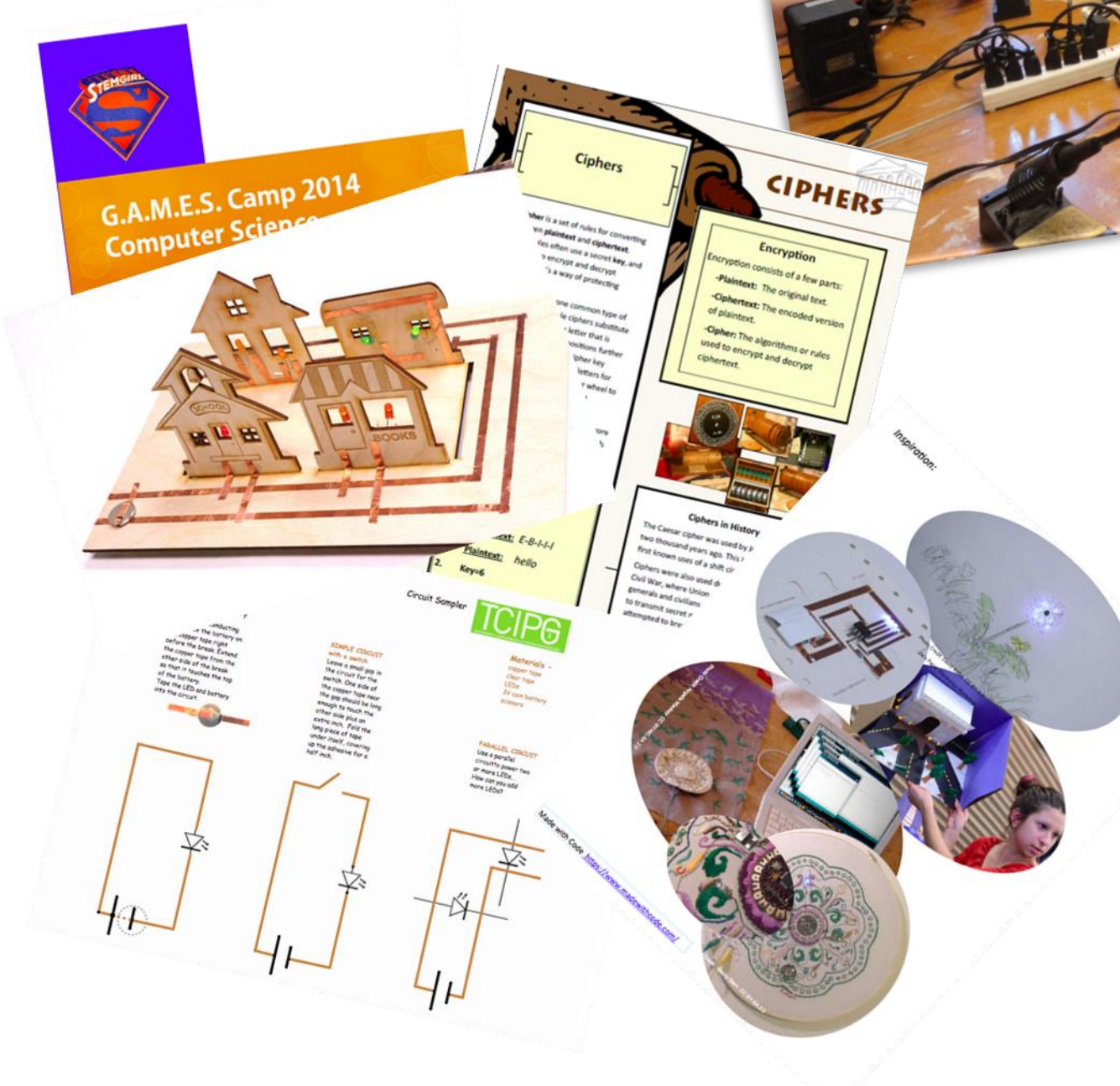
EDUCATION PLAN

- Create interactive lessons:
 - Hands-on.
 - Web-based.
 - Accessible on mobile devices.
- Provide print materials and kits:
 - Lesson plans for teachers.
 - Resource kits for physical demonstrations.
- Connect with other national curriculum endeavors and informal education providers.
 - National Science Teachers Association.
 - Project Lead the Way.
 - National 4-H SET.
 - Bakken Museum.



DISSEMINATION ACTIVITIES

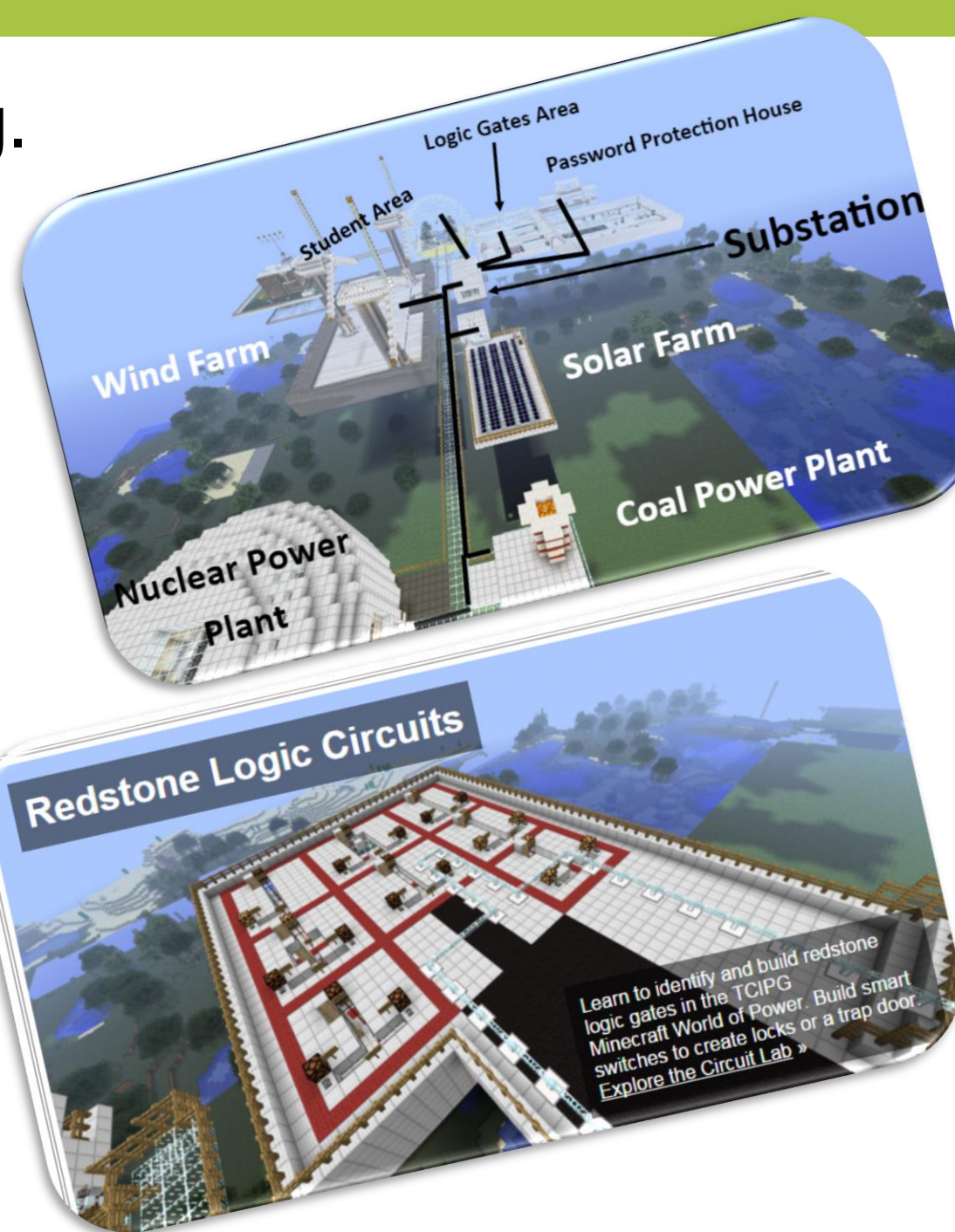
- Broad Web-based distribution and links.
- Partnerships with teachers and schools.
- After-school programs.
- Presentations at conferences for teachers and for industry representatives.
- Community and campus events.
- Energy education dissemination grant from Caterpillar Foundation.



- USA Science and Engineering Festival.
- UIUC GAMES Camp, GEMS Camp, Girls Explore Camp.
- U-STEM.

BROADER IMPACT

- Tools for informal learning.
- Minecraft World of Power.
- Minecraft Cyber World.
- Lesson materials for students and teachers.
- Communicating to the public the importance, opportunities, and challenges of a secure, modern energy delivery system.



FUTURE EFFORTS

- Use virtual and physical exploratory spaces to expand dissemination of educational resources on the science of electricity, computer science, and energy delivery systems.
- Create educational resources that relate the physical energy infrastructure and a secure cyber infrastructure.