

ENERGY HOUSE CHALLENGE

Students will put their creativity and problem-solving skills to the test by designing and building an energy-efficient home using free kits provided by the Louisiana Office of Energy.

In this two-part challenge, students work in teams of 2-3 to engineer a model house using the cardboard box included in each kit. To keep the competition fair, all groups must use the provided boxes—ensuring everyone starts with the same square footage.

We'll kick things off with a virtual lesson covering energy efficiency, conservation, insulation, and how buildings function as envelopes.

After that, students can use as much class time as you'd like to design and build their homes. We recommend at least one week—two weeks tends to give the best results. (Kits should stay in the classroom; materials often get lost or damaged when sent home.)

Although the kits include everything needed, students are welcome to get creative! As long as they follow the “building code,” you may provide additional classroom materials—or students may use safe items from home—to enhance their designs.

Once construction is complete, the Louisiana Office of Energy team will visit your school to put the houses to the test. If an in-person visit isn't possible, a virtual option is available. For testing, you'll need to provide Ziploc bags with 5-10 ice cubes (uniform in size) for each home. Thermometers are included in the kits; please have students install the batteries beforehand to save time.

During testing:

- We'll record each house's base temperature.
- Ice bags will be placed inside the homes and thermometers will be positioned in the doorway (not touching the ice).
- Temperatures will be recorded every 5 minutes for about 20-25 minutes.
- The team with the largest drop in temperature wins the efficiency challenge!

Afterward, students will vote for the "Best Looking House" to celebrate creativity and design flair.

Are your students ready to take on the challenge?



Contact:
BeEnergySmart@la.gov

