

# ENERGY HOUSE CHALLENGE



**Students design and build an energy efficient house using kits provided by the Louisiana Energy Office for FREE!**

**Are you up for the challenge? In this two-part lesson, student will work in groups of 2-3 to design and engineer a home using the cardboard box provided in the kit. In an effort to keep the competition as fair as possible, please only use the boxes included in the kit. This way everyone has the same square footage to work with.**

**We begin with a virtual lesson on efficiency and conservation, insulators, and buildings as envelopes. The students are given as much class time as you like to work on their homes. We suggest as least a week, but two weeks seems to provide the best results. It is not recommended to allow them to take the kits home to work on (materials are misplaced, forgotten at home, destroyed; etc.). Though all materials needed are included in the kits, feel free to get creative! As long as students follow the "building code", they are free to use alternate materials supplied by you or found in their own homes.**



**After the homes are completed, the Energy Office will visit your school in-person to put them to the test. If we are unable to visit in-person, a virtual option is available. You will need to provide Ziploc bags with 5-10 ice cubes (depending on the size). Try to keep the bags of ice as uniform as possible. Thermometers are included in the kits and will be needed for the test. Please have the students place the battery in the thermometers prior to our arrival to save on time.**

**We will begin with a base temperature reading of the houses. Once the initial reading is complete, we will place the bag of ice inside the homes at the same time. The students will place the thermometers in the door of their house, ensuring it is not resting on the ice bag. We will take readings every 5 minutes for 20-25 minutes. Once we have all the data, we will see which house has the biggest drop in temperature by subtracting the base reading from the final reading. The most efficient house is the winner! Then the students can then vote on which house they think is the prettiest.**



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