

Name: _____

Date: _____

Unit 1 Energy Efficient Home Project

You are hired as an energy efficiency analyst for the city of Chicago. You have been asked to consult with local residents on how to make family homes more energy efficient. To begin, you will audit your own home, then re-design it to improve its energy efficiency.

Steps & Deadlines

Step	Task	Deadline	Completed?
1	Research your home's features. With you parents, complete the Home Energy Audit Graphic Organizer 1 on the back of this page.	Monday, November 25	
2	Research what the most energy efficient options are for home features. Complete Graphic Organizer 2.	Monday, November 25	
3	Plan improvements for your home. What areas of your home are not energy efficient? What could you do to improve those features?	Week of November 25	
4	Create final 3-D product, including labels. Needs to include all rooms and asterisked* features of home from Graphic Organizer 1.	Week of December 2	
5	Present home to class.	Week of December 9 / 16	

Final 3-D Product

Your final building will be presented as a 3-D model. You can choose one of the following ways to create your model:

- Building on Minecraft
- 3-D physical model
- Blueprint on website

Engineering Requirements

You will explain the reasoning behind your decisions through the use of clearly-written labels. You must display labels explaining:

- Three energy transformations and/or transfers
- Five features that improve energy efficiency – and HOW
- Statement on how the law of conservation of energy is working in the overall structure

Assessment

The rubric will be forthcoming. You will help design the criteria for the rubric.

Home Energy Audit Graphic Organizer 1

Directions: Complete this home energy audit for your apartment/house. You must complete all those with an asterisk (*). Those without an asterisk (*) are optional. There is a blank row for you to add an additional home feature. Feel free to use another paper for more information.

You will need to ask for parent help to complete this!

Home Feature	My Home
*Heating source <i>Research by figuring out which utility your bills are from (e.g. People's Gas or ComEd) and then which energy source that company uses to generate electricity</i>	
*Cooling source <i>Research by figuring out which utility your bills are from (e.g. People's Gas or ComEd) and then which energy source that company uses to generate electricity</i>	
Insulation (type and/or location)	
*Window type (single or double pane)	
Window treatment, if any <i>e.g. reflective film</i>	
*Type of hot water heater <i>Electric or natural gas</i> <i>Is the model energy efficient?</i>	
*Air conditioning <i>Central, window unit (# ?), or none</i>	
*Appliances	Dishwasher: Refrigerator: Oven/stove: Washing machine: Dryer: Other:
*Light bulbs <i># of incandescent, # of compact fluorescent, # of LED</i>	Incandescent: Compact fluorescent: LED:
*Nearby vegetation (plants)	

