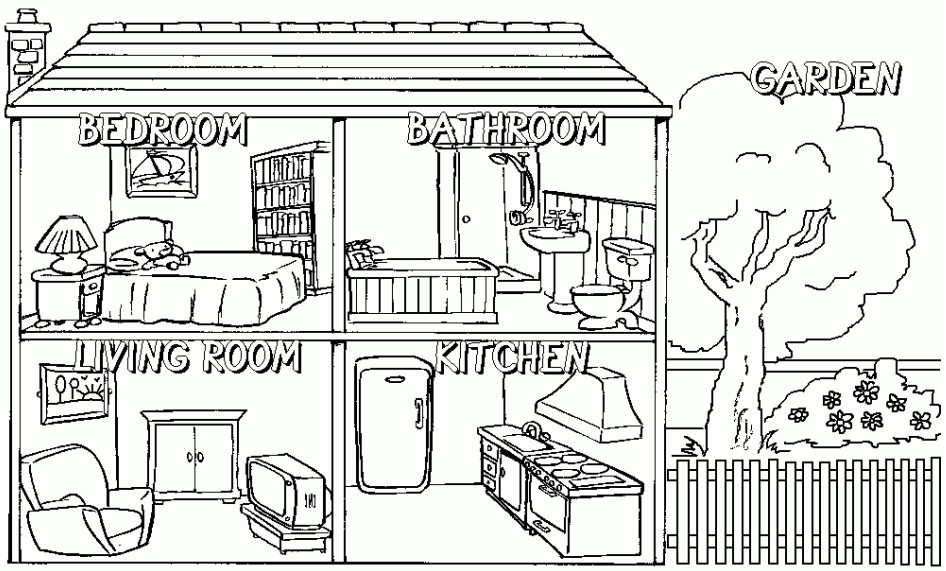
# Electric House Project

Due date__04/07/2016____




Objectives: Design and construct both series and parallel circuits as used in electrical circuits in homes by creating a model house with circuit diagram and working circuits.

.

You may work with a partner to make a shoebox-sized house wired with the required circuits. Adding décor and furnishings will show your awareness of the appropriate uses of each type of circuit.

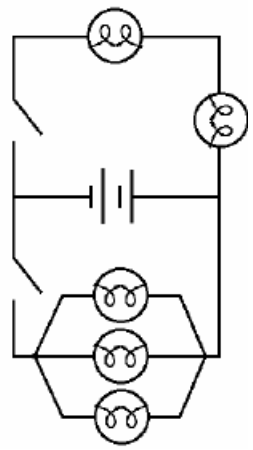
## Requirements:

Design and construct your electric house project with any school appropriate theme and in any way you like, within these guidelines:

Your project house must have <u>at least</u> two rooms (or definitive spaces) connected by a doorway or passage
Your project house must be <u>at least</u> 4" x 6" x 1' (close to the size of a shoebox)
Your project house must have the following circuits in these separate spaces:

1. **A series circuit room:** two lights in series with a switch in one room
2. **A parallel circuit room**: three lights in parallel with a switch in one room

Your building must display a circuit diagram.
3D objects should be included appropriate for the type of room; wall coverings should be used to add interest.



## Construction

- Recommended materials may include cardboard, foamboard, shoeboxes, etc.
- Some materials such as insulated wire, holiday lights, brads, and paperclips will be available during building sessions before or after school.
- Switches can be made from brads and paper clips.
- Your project house will be powered by a 9V battery. You will need two leads to attach the battery.
- Each circuit must be able to work independently from the other as well as both circuits on at the same time <u>without moving the battery</u>
- You will need access to scissors, wire cutters and wire strippers.
- Furnishings may **<u>not</u>** be premade toys such as legos: everything must be made for this project. Suitable materials for furniture include but are not limited to origami, wood, modeling clay, plastic, etc.

## Grading Rubric

| Category | Points available | Points scored |
|---|---|---|
| Project submitted on time | 0-10 pts | |
| Followed instructions for size and materials | 0-20 pts | |
| Switch operates in each room | 0-10 pts | |
| Series circuits with 2 lights wired correctly | 0-15 pts | |
| Parallel circuit with 3 lights wired correctly | 0-15 pts | |
| Series and parallel circuits work independently without moving battery | 0-15 pts | |
| Effort, creativity, neatness | 0-15 pts | |

**Your project is due by the time your class begins on the due date whether or not you are present at school.**
**Your grade will be reduced by 25 points for each day the project is late.**

Here is a link to another teacher's past projects so you can see what earns an "A". You tube link on how to make a switch.
http://pleasanton.k12.ca.us/avhsweb/barnettdreyfuss/Physics/ProjectExamples/ExElectricHouse.htm