

Dream House

You will need the following equipment: 6 wires, 1 battery, 4 bulbs, 1 switch.

Using the equipment, you will need to build and draw the following circuits:

- Circuit 1 - A parallel circuit with 1 battery, 1 switch, 2 bulbs.
- Circuit 2 - A parallel circuit with 1 battery, 1 switch, 3 bulbs.
- Circuit 3 - A parallel circuit with 1 battery, 1 switch, 4 bulbs.



Circuit 1

Circuit 2

Circuit 3

You are currently the site manager for a local **eco-friendly** housing development project. The houses are in the early planning phases and will provide luxury accommodation for executives that work in the city.

For every house that is constructed, there are certain rules **that must be** adhered to.

Inside the house:

- There must be at least two separate rooms.
- There must be a series circuit with 2 bulbs, 1 battery and 3 wires wired correctly.
- There must be a parallel circuit with 2 bulbs, 1 switch, 1 battery and 5 wires wired correctly.

Outside the house:

- There must be a parallel circuit with 2 bulbs, 1 switch, 1 buzzer, 1 battery and 6 wires wired correctly.

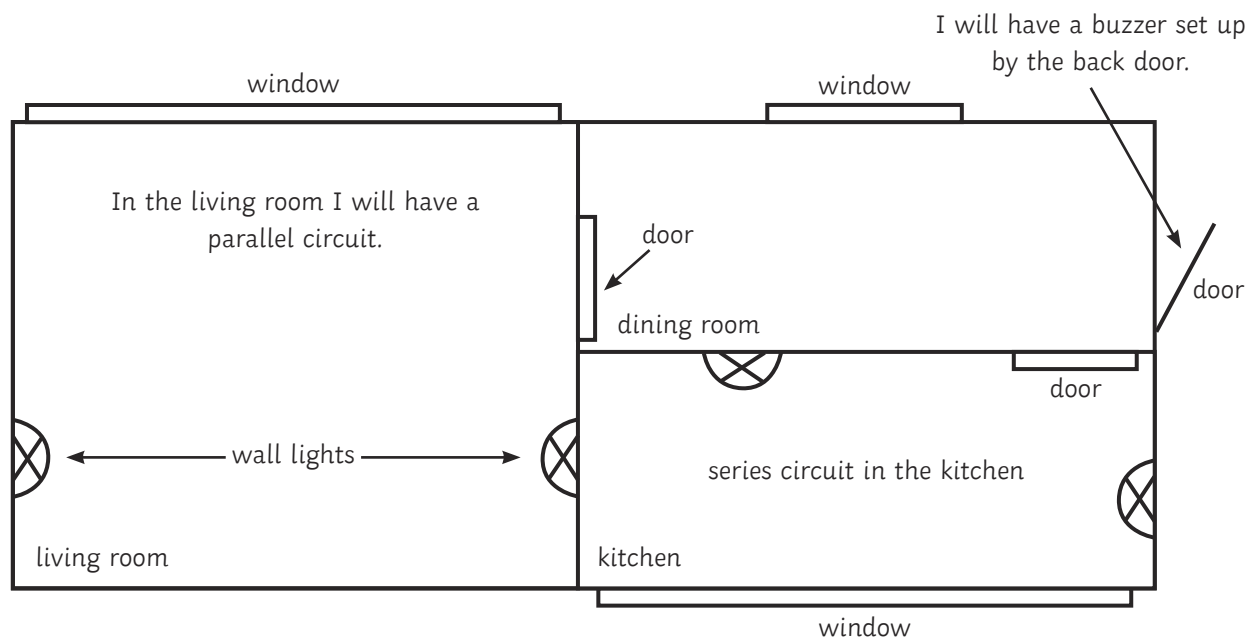
The house must be **no smaller** than the size of a **shoe box**.



You will need the following equipment: 14 wires, 3 batteries, 6 bulbs, 2 switches and 1 buzzer.

You now need to create a blueprint for your dream house design. This is a bird's eye view drawing of how your house will look when you have electrically wired it. **The design must be an accurately scaled drawing of your design. Use a scale of 1cm:1m.**

An example of how your bird's eye view design may look. **Remember to use a ruler.**



Dream House Checklist

0-3 points	4-7 points	8-10 points
The students have made some effort and attempted to execute their design. Great work. Some of the wirings are correct and the student has made an attempt to use a ruler to draw their design. Some of the labels on the design are correct.	The students have made a good effort and executed their design well. Fabulous effort. The wiring is mostly correct and matches the blueprint. The drawing is slightly messy and a ruler may not have been used. Most of the labels on the design are correct.	The student has really thought about the design of their house and executed their design successfully. Awesome effort. The wiring is correct and matches the blueprint design. The blueprint is drawn neatly using a ruler and is correctly labelled with the circuit names (parallel or series), circuit symbols and each room is labelled.

Dream House Construction Checklist	Completed	Points Achieved
<p>Dream house design – a bird's eye view of how your house will look when you have electrically wired it.</p> <p>Label where your series and parallel circuits will be placed.</p> <p>Think carefully about where your wires go. You wouldn't have lots of wiring on show in your own house.</p>		
<p>Series circuit with 2 bulbs, 1 battery and 3 wires.</p> <p>Check the circuit works before placing inside of the house.</p>		
<p>Parallel circuit with 2 bulbs, 1 switch, 1 battery and 5 wires.</p> <p>Check the circuit works before placing inside of the house.</p>		
<p>Parallel circuit with 2 bulbs, 1 switch, 1 buzzer, 1 battery and 6 wires.</p> <p>Check the circuit works before placing outside of the house.</p>		
<p>All circuits must be able to be used at the same time without moving the battery.</p>		

