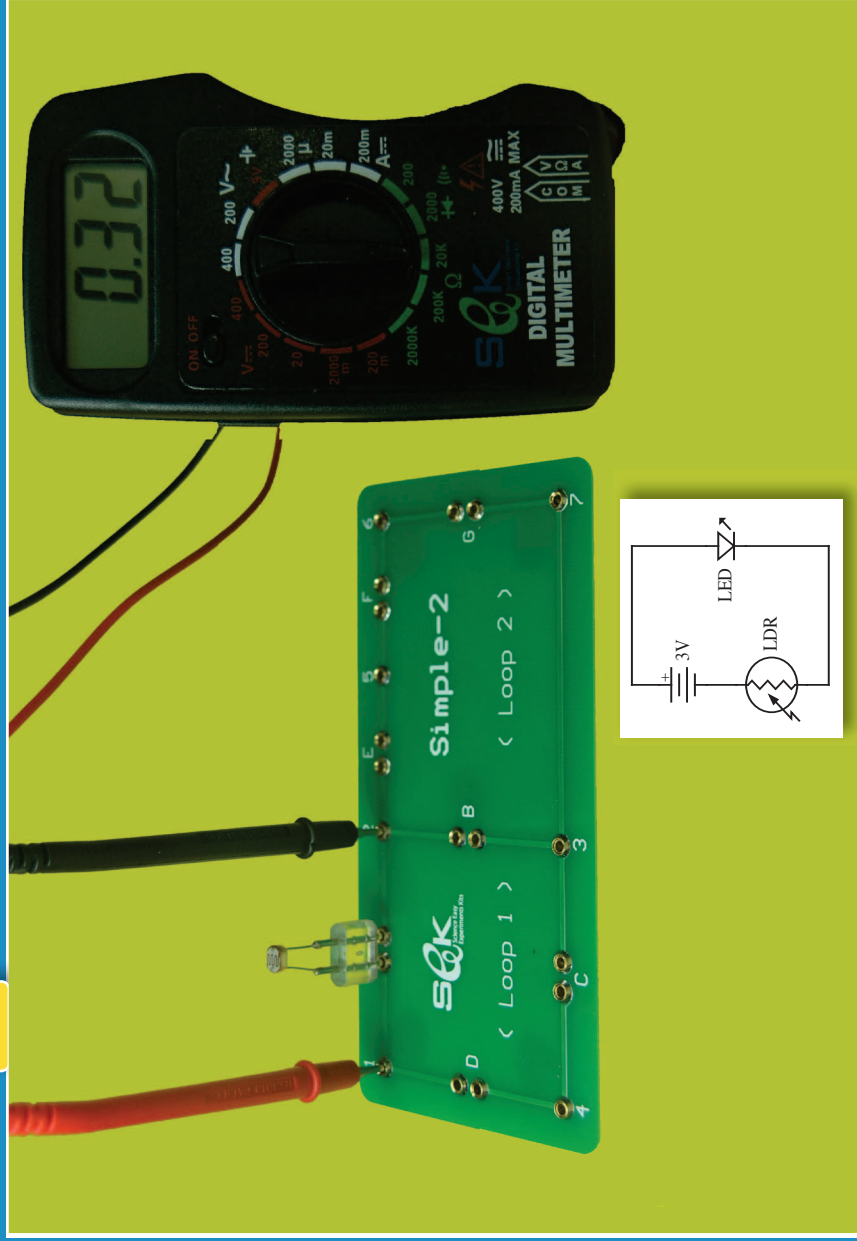


Experiment

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Light Dependent Resistor (LDR)



Objectives

1. The student will investigate the behaviour of LDR.
2. The student will be able to measure LDR resistance value with different incident light intensity.
3. The student will investigate the relationship between the resistance of LDR and its light intensity.

Apparatus

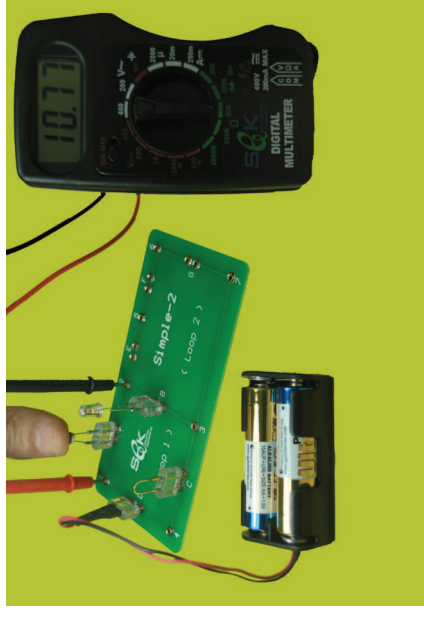
- Experiments Board (Simple-2)
- LDR
- 2xAA Battery Holder w/AA batteries
- LED
- DMM
- Black tube

Procedure & Conclusions

1. Insert LDR at the pair (A).
2. Set the DMM to Ohm mode (range 200 K Ω).
3. Insert the DMM probes at points (1) & (2) to measure the resistance value in a normal light intensity.
4. Expose LDR to the light source inside the room and watch the change in the DMM reading.

- The resistance value you measured for the LDR inside the room is Ω .
- 4. Expose the LDR to the sunlight while watching the DMM reading.
- By exposing the LDR to the light source inside the room, the resistance value ... **increases / decrease ...**, and when exposed to the sunlight, the resistance value gets ... **higher / lower ...**
- 5. Shade the LDR with your finger and see what happens to the DMM reading.
- By shading the LDR, the resistance value ... **increases / decreases ...**, and becomes $K\Omega$.

7. Build a simple circuit by inserting the LDR at the pair (A), LED at the pair (B) in a way that the positive terminal of the LED will be towards the point (2), then insert a jumper at the pair (C), as shown in the photo.



8. Connect the 2xAAA battery holder to the pair (D) in a way that the positive

- terminal (red wire) will be towards the point (1), what happens to the LED?
9. Shade the LRD with your finger and see what happens to the LED in this case.
- In the above electric circuit you find that when the LDR is exposed to the light the LED ... **emits / doesn't emit ... light**, when you shade the LDR, the emitted light from the LED ... **increases / decreases / fades away ...**, the reason is that the resistance of the shaded LDR becomes ... **larger / smaller ...**

Discussion

1. What's the relationship between the resistance of the LDR and its light intensity?
2. Explain the working of LDR and mention some applications of LDR?