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HOW TO USE AN

PHOTO-RESISTOR

LDR: Light Dependent Resistor

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WHAT IT IS:

A photo-resistor –also called a Light Dependant Resistor (LDR)– it's a variable resistor whose resistance changes based on the amount of light hitting it.

HOW IT WORKS

Light intensity produces changes in the LDR resistance capacity.

Bright light = low resistance
Dim light = high resistance

MORE INFO:

https://arduinoyard.com/ldr-with-arduino/

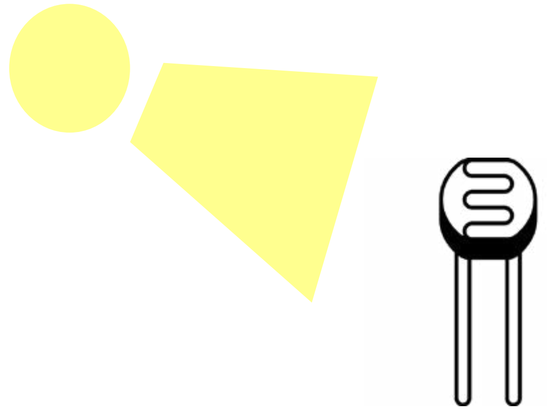
WHEN TO USE AN LDR?

LDRs are great for:

- Relative brightness detection (e.g., is it bright or dark?)

- Creative triggers (e.g., interactive installations reacting to light or shadow)

WARNING!
An LDR does not measure lux (precise light intensity).
It only gives a relative light level.
Light sensors can be used instead.



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LDR TUTORIALS

TUTORIAL 1:
Print LDR data on Serial Monitor

TUTORIAL 2:
Turn an LED on/off based on brightness

Follow the tutorials in the following link

https://www.circuitbasics.com/pairing-a-light-dependent-resistor-ldr-with-an-arduino-uno/

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CHALLENGE:

1. Modify your code so the LED:
   - Blinks fast if too bright
   - Blinks slowly if too dark
   - Stays ON if medium light
   - Turns OFF in complete darkness

2. Upload a video (aprox 10 seconds) showing your achievements.

VIDEO UPLOAD

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FURTHER LEARNING

- Build a Solar Tracker (LDR + Servo Motor)
- Control 4 LEDs with an LDR
- LED Dimmer using an LDR
- Sound alarm using an LDR and Buzzer