E4.2 LDR in a divider

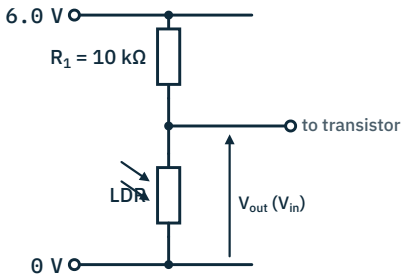
TASK

Build an LDR divider in CircuitClass. Change the light level and record V_{out}.

YOU NEED

- ☐ CircuitClass · circuits mode with an LDR whose light level can be set
- ☐ Your E4.2 notes and the LDR table
- ☐ About 15 minutes

1 · Build



Build this circuit

1. Add a 6 V battery: long plate (+) to the top rail.
2. Add R_1 = 10 kΩ at the top.
3. Add an LDR at the bottom.
4. Add a voltmeter from the middle to 0 V. This reads V_{out}.

2 · Predict, then measure

Use the table resistance to predict V_{out}. Then set the light level and measure.

Light	R_{LDR}	Predicted V_{out} (V)	Measured V_{out} (V)	Match?
20 lux	62 kΩ			
100 lux	20 kΩ			
500 lux	6.5 kΩ			

3 · What did you find?

As the light level fell, V_{out} _____ because _____

IF YOUR CIRCUITCLASS LDR HAS NO LIGHT CONTROL

Use a variable resistor set to the table values instead. Label it 'LDR (simulated)'.