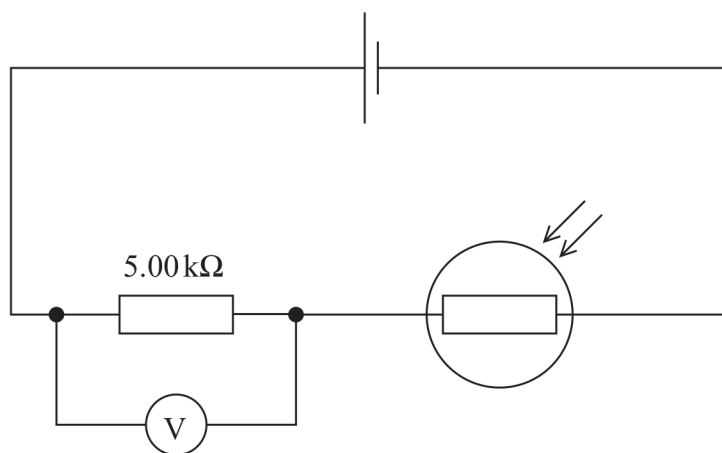


- 13 A student investigated how light intensity affects the resistance of a light dependent resistor (LDR). She set up a circuit using a cell with negligible internal resistance, as shown.



The e.m.f. of the cell was 1.50 V . When the lights in the laboratory were switched off, the voltmeter reading was 1.19 V .

- (a) Calculate the resistance of the LDR when the lights were off.

(2)

Resistance of LDR =

- (b) When the lights were switched back on, the student discovered that it was impossible to calculate the resistance of the LDR using this circuit. The teacher said that with the lights on, the resistance of the LDR was about $9\text{ }\Omega$.

Explain why the student was unable to use the circuit to determine the resistance of the LDR with the lights on. The resolution of the voltmeter was 0.01 V .

(2)