

GCSE Physics B (Twenty First Century Science)
J259/02 Depth in physics (Foundation Tier)

Question Set 19

1

Lyla and Alex are investigating two identical light-dependent resistors (LDRs). A torch is used as a light source by Lyla, and Alex decides to use a table lamp.

Each light source is placed above the LDR.

The resistance of the LDR is determined for different numbers of identical sheets of tracing paper placed on the LDR, as shown in **Fig. 1.1**.

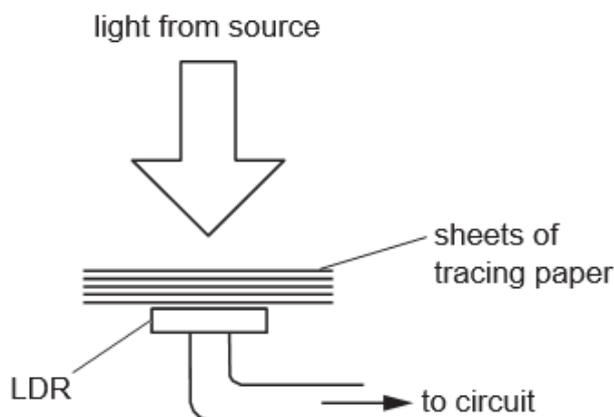


Fig. 1.1

Lyla's and Alex's results are shown in **Fig. 1.2**.

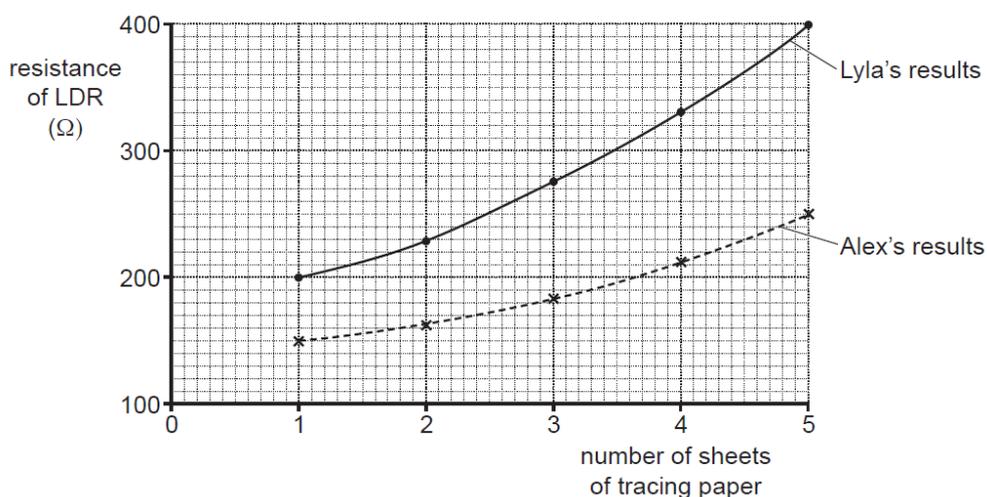


Fig. 1.2

(a) Use **Fig. 1.2** to explain how the **light intensity** affects the resistance of the LDR.

As increase in sheets means less light intensity and higher resistance.

(b) The LDR is connected to a cell, an **ammeter** and a **voltmeter**.

The meter readings from the ammeter and voltmeter are used to determine the resistance of the LDR.

Complete **Fig. 1.3** to show the likely circuit connected by Lyla and Alex.

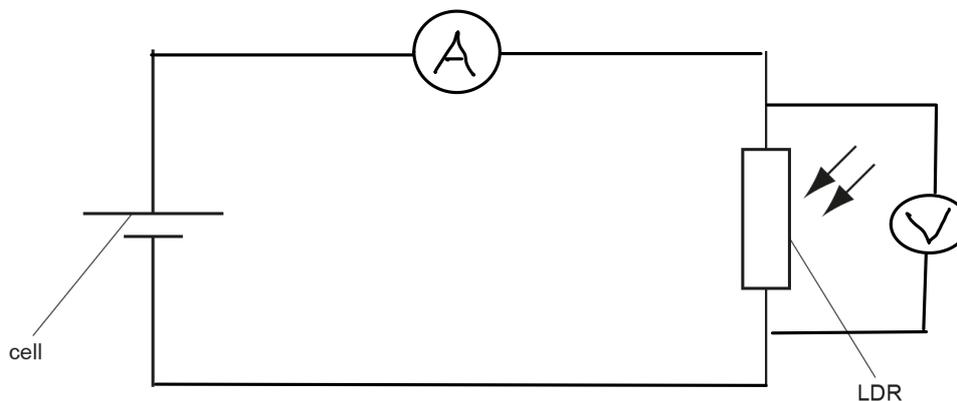


Fig. 1.3

[2]

(c) Lyla and Alex worked in different parts of the laboratory to conduct their investigations.

Both used identical sheets of tracing paper and identical LDRs but their results were different.

(i) Suggest **one** thing that must be kept the same to get identical results.

Same light source.

[1]

(ii) Suggest **one** improvement that needs to be made to get identical results.

Keep the same background light.

[1]

Total Marks for Question Set 19: 6

OCR

Oxford Cambridge and RSA

Copyright Information

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download from our public website (www.ocr.org.uk) after the live examination series.

If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact The OCR Copyright Team, The Triangle Building, Shaftesbury Road, Cambridge CB2 8EA.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge