

**MONDAY, 6 JANUARY –
FRIDAY, 21 FEBRUARY 2025**

PHYSICS – Unit 3 (3420U30)

PRACTICAL ASSESSMENT

**INVESTIGATING THE RESISTANCE OF A
LIGHT DEPENDENT RESISTOR**

SECTION A

**1 hour, plus your additional time
allowance**

Surname _____

First name(s) _____

Centre Number _____

Candidate Number 0

ADDITIONAL MATERIALS

A calculator.

INSTRUCTIONS TO CANDIDATES

Use black ink, black ball-point pen or your usual method.

Write your name, centre number and candidate number in the spaces provided on the front cover.

Answer ALL questions.

Write your answers in the spaces provided in this booklet. If you run out of space, use the additional pages at the back of the booklet, taking care to number the question(s) correctly.

INFORMATION FOR CANDIDATES

The total number of marks available for this section of the task is 6.

The number of marks is given in brackets at the end of each question or part-question.

This task is in 2 sections, A and B. You will complete Section A in one lesson and Section B in the next science lesson.

(Turn over)

For Examiner’s use only		
	Maximum Mark	Mark Awarded
Section A	6	

INTRODUCTION

Your task is to investigate the effect of light intensity on the resistance of a light dependent resistor (LDR).

APPARATUS REQUIRED

The following apparatus is required for each group: (each group should consist of no more than three candidates).

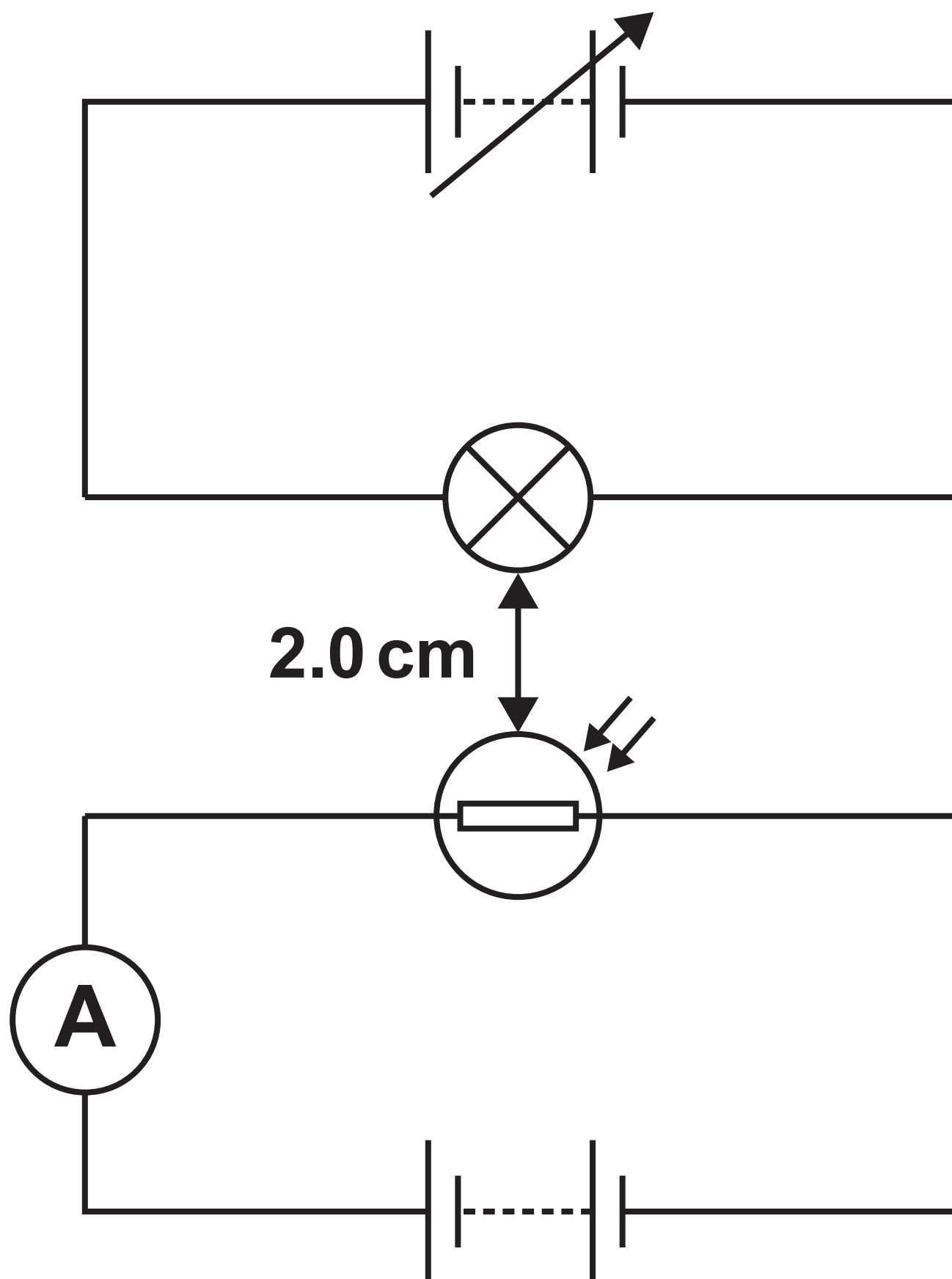
- 1 × power supply (set to 12 V for LDR)**
- 1 × variable power supply (0–12 V for lamp)**
- 1 × LDR**
- 1 × clamp and stand**
- 1 × ammeter**
- 1 × 12 V, 24 W filament lamp**

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DIAGRAM



READ THE METHOD AND ANSWER QUESTION 1 (a) BEFORE CARRYING OUT THE EXPERIMENT AND RECORDING YOUR RESULTS.

METHOD

- 1. The circuits in the diagram have been set up for you. The LDR is positioned 2.0cm away from the lamp. They must remain at this distance throughout the experiment.**
- 2. Set the voltage across the lamp to 4V.**
- 3. Use the ammeter to measure and record the current.**
- 4. Repeat steps 2–3 for voltages across the lamp of 6V, 8V, 10V and 12V.**
- 5. Repeat steps 2–4 to obtain a total of two sets of results.**

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HAZARD	RISK	CONTROL MEASURE

SECTION A

Answer ALL questions.

1 (a) Complete the risk assessment for this experiment on the opposite page.

There is no risk of electric shock in this experiment. [2 marks]

(Turn over)

**YOU MAY RECORD RAW RESULTS IN
THE SPACE BELOW.**

(Turn over)

**1 (b) Present your results in a table.
Include all of your results. [4 marks]**

6

END OF PAPER

Question number	Additional page, if required. Write the question numbers in the left-hand margin.

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