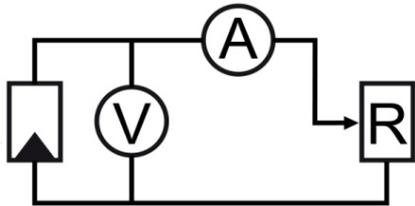
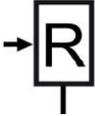


Worksheet 6 (answer sheet): Optimizing the power output of solar cells

Solutions are only given for those tasks that have a standardized answer.

Task 1

Set up the circuit and draw a circuit diagram using the correct circuit symbols.

Circuit symbols		Circuit diagram
voltmeter		
ammeter		
solar cell		
potentiometer		

Task 5

Write a method for the experiment. Make use of the sentence patterns to write meaningful sentences. Elements from the sentence patterns can be used more than once.

we

set
connect
direct
measure
reduce
write

the digital multimeter
the other digital multimeter
the potentiometer
the ammeter and the potentiometer in series
the voltmeter
the light of the lamp
voltage and current
the voltage in steps of 0.1 V
the observations

to
with
onto
of
into
by

the voltage measurement range
the current measurement range
the solar cell
both directions
turning the potentiometer
the book

1. First we set the digital multimeter to the voltage measurement range.
2. Then we set the other digital multimeter to the current measurement range.
3. Thereafter, we connect the potentiometer to the solar cell.
4. Then we connect the ammeter and the potentiometer in series with the solar cell.
5. Next, we connect the voltmeter to the solar cell.
6. Now we direct the light of the lamp onto the solar cell.
7. At the same time, we measure voltage and current of the solar cell.
8. Then we reduce the voltage in steps of 0.1 V by turning the potentiometer.
9. At the end, we write the observations into the book.