

Brightness Simulation

Name:

Block:

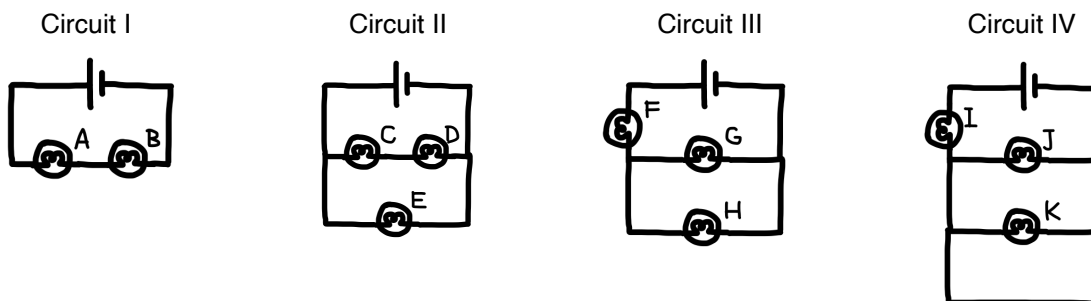
Objective

Investigate the brightness of identical lightbulbs in different circuits

Website: <https://phet.colorado.edu>

Simulations > Physics > Electricity, Magnets & Circuits > Circuit Construction Kit: DC

Each of the circuits below is constructed with identical ideal batteries and identical lightbulbs.



- For each circuit, predict the ordering of the bulbs from dimmest to brightest. Indicate bulbs of equal brightness with an equals sign.
 - Circuit I
 - Circuit II
 - Circuit III
 - Circuit IV
- Construct each circuit. Were your predictions correct?
- Provide an explanation for your findings.
 - Circuit I
 - Circuit II

c) Circuit III

d) Circuit IV

4. Rank all the bulbs (A-K) from dimmest to brightest. Indicate bulbs of equal brightness with an equals sign.

5. If the following bulb, identical to all the others, has a brightness of P , determine the brightness of all the bulbs (A-K) in terms of P . Show your work.

