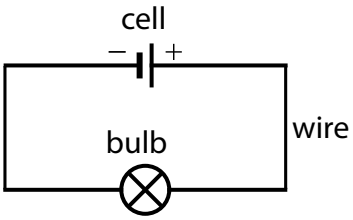
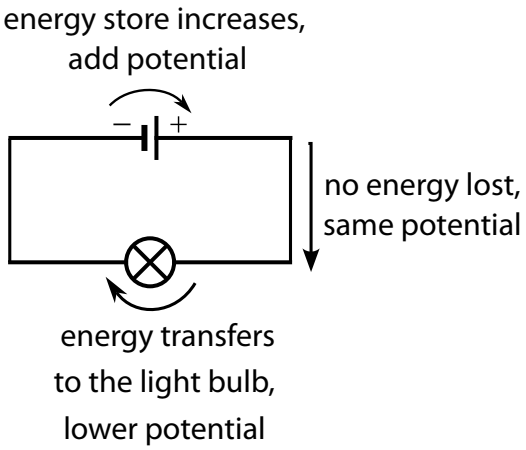
Potential and Circuits

Electric charges travel round a circuit to make a _____. The charges can be _____ or _____. Electric charges are the _____ "material" in a circuit.

The amount of energy transferred from the _____ store of a ___ to a charge is called the **potential**. It is measured in ____ (V).

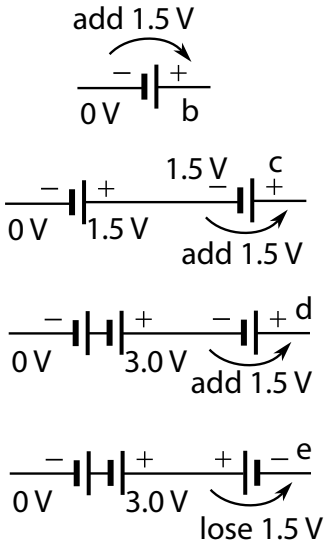
The potential will _____ around a circuit.





1 Complete the sentences below with the words **potential, positive, negative**.

(a) The potential at the _____ terminal of a cell, the short side, is 0 V. The _____ at the _____ terminal, the long side, is 1.5 V.



(b) What is the potential at (b)?

(c) Two cells are connected together. What is the potential at (c)?

(d) Three cells are now connected together. What is the potential at (d)?

(e) The third cell is now connected in reverse. What is the potential at (e)?

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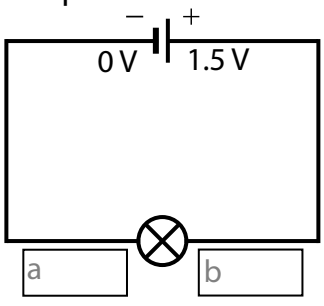
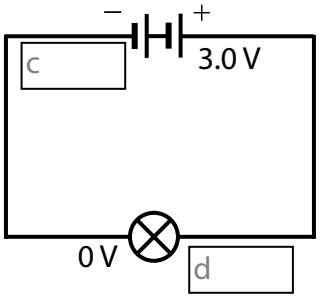
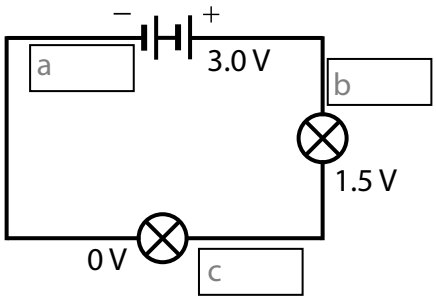
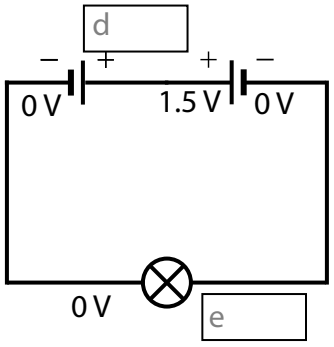
2 Write down the potential in each of the boxes.



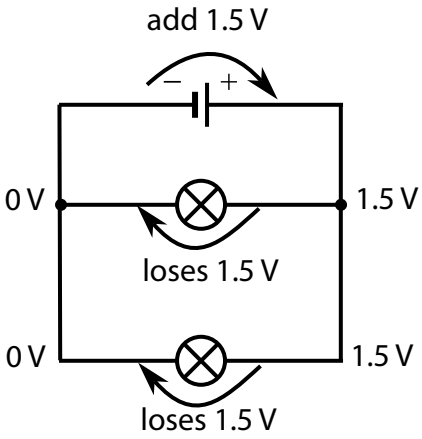


3 Write down the potential in each of the boxes.





_____ circuits have _____. The energy of a _____ does _____ when passing through a junction.



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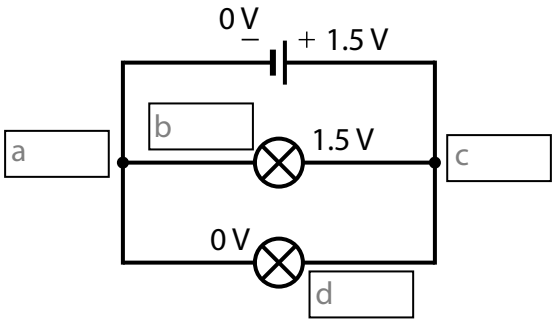
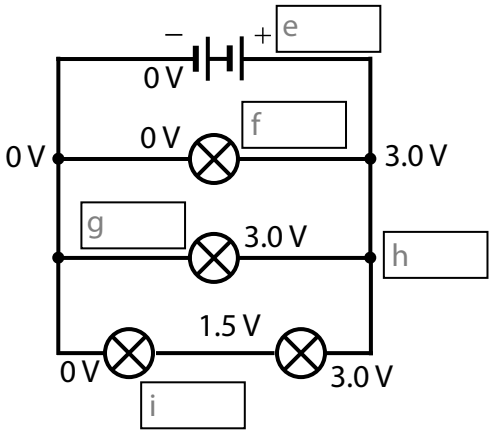
4 Write down the potential in each of the boxes.





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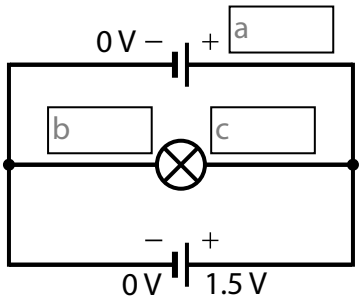
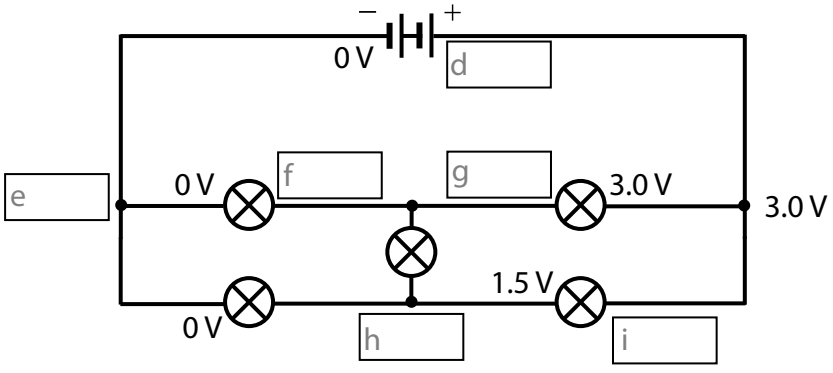
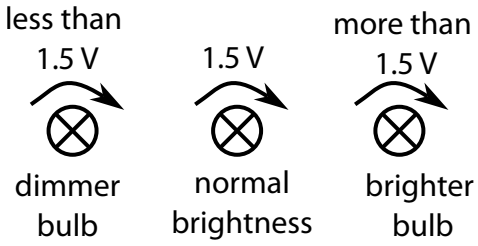
5 Write down the potential in each of the boxes.



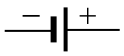


The difference in **potential** across a battery or a bulb is called the _____ or _____. When there is a _____ across a ____, the charges ____ through it, lighting it up.

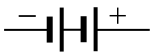


6 What is the potential difference for each combination of cells or **batteries**? Each cell has a potential difference of 1.5 V.

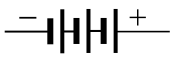
(a) 1-cell battery



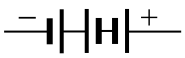
(b) 2-cell battery

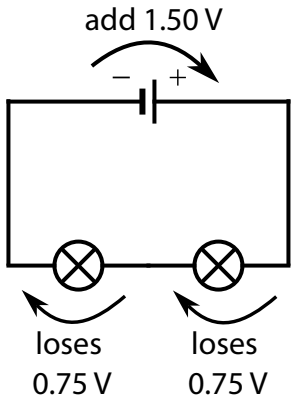


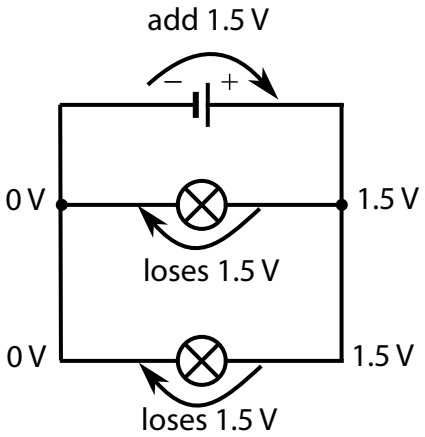
(c) 3-cell battery



(d) odd 3-cell battery







If ____ bulbs are ____ to each other on the same _____ of the circuit, we say they are in _____. The _____ is _____ across the two.
If ____ bulbs are on _____ of the circuit, we say the _____ are in _____. The _____ is the _____ across the two _____ of the circuit.

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7 In the circuits in question 4, which bulbs are in series and which bulbs are in parallel?

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8 Go back to the circuits in questions 2, 3, 4, and 5. What is the brightness of each bulb? Are they **normal**, **dimmer** or **brighter**?