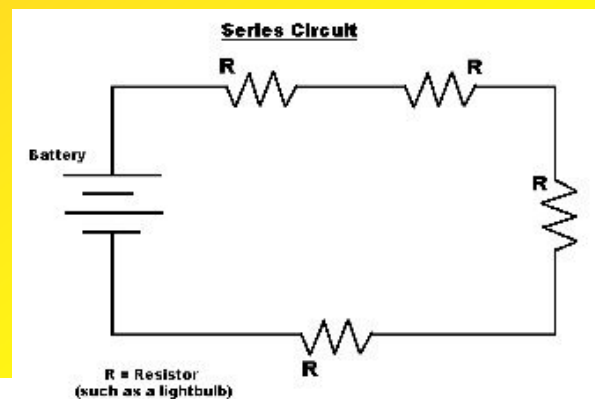
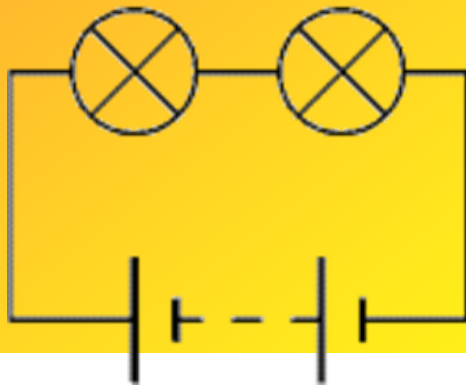


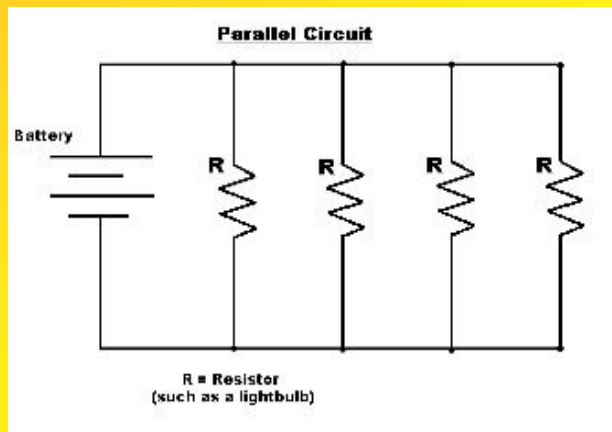
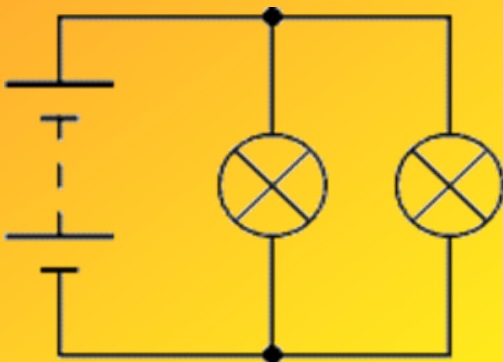
The Series Circuit

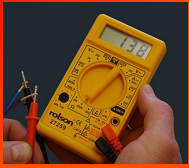
- This term applies to any electric circuit in which the parts of the circuit are wired to one another in a single path.
- The electricity has only one path to follow.
- Example: the old Christmas lights that when one light went out they all went out.



Parallel Circuits

- In a parallel circuit, current passes through a separate circuit to each part. Each separate circuit is called a branch circuit.
- Ex. when one bulb goes out in a string of lights the others are not effected.





Electrical Resistance



- The molecules of all types of conductors impede or resist, the flow of electrons to some extent.
- This ability to slow the flow of electrons is called electrical resistance.
- Electrical resistors are devices that are used for this purpose.
- The unit for resistance is the ohm (Ω), and the symbol is R.

What About Resistance?

The flow of electricity depends on how much resistance is in the circuit.

In our examples, with the Christmas lights. The bulbs provide resistance.

In a series circuit, the resistance in the circuit equals the total resistance of all the bulbs. The more bulbs in the circuit, the dimmer they will light.

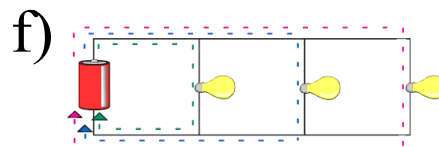
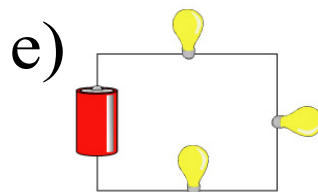
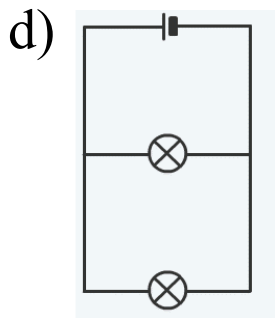
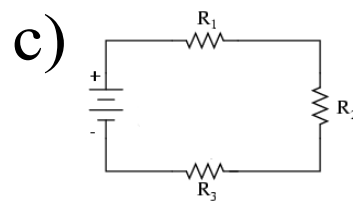
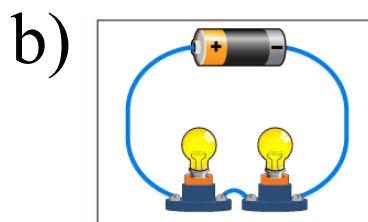
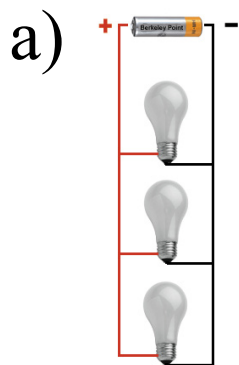
In a parallel circuit, there are multiple paths through which current can flow, so the resistance of the overall circuit is lower than it would be if only one path was available. The lower resistance means that the bulbs will burn brighter compared to the same number of bulbs arranged in a series circuit.

Give the letter of each of the following that are:

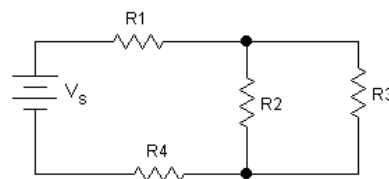
- in series?

- in parallel?

Between a,b,e or f which would provide the brightest light?



g)



How to draw in series/parallel

Example:

Draw a battery, motor and switch in series and parallel.

Series

Parallel

Which type of circuit provides the least resistance?

Series/Parallel Circuit Assignment

Attachments

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