Resistor networks

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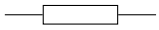
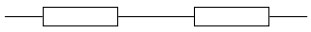
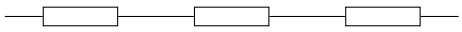
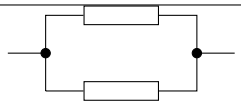
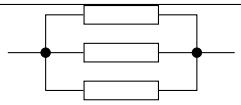
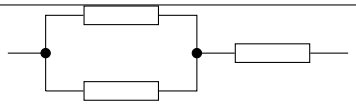
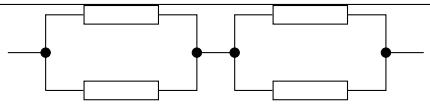
A network of resistors is a combination of two or more resistors connected together. They can be connected in quite complicated ways, and the particular connexions determine the total resistance of the whole network...

- Measure the resistance of a 10 Ω resistor and write down the actual value in the table below.
- Look at the first network in the table, predict a value for the total resistance and write it in the table.
- Now make the network and measure its total resistance (between one end and the other). Was your prediction right or wrong? Explain in the table, and use what you learn to help you to predict the next network!

Network	Total resistance / Ω		Why was your prediction right / wrong?
	Predicted	Measured	
			
1 			
2 			
3 			
4 			
5 			
6 			

1. What happens to the total resistance if you connect resistors end-to-end (in series)?
2. What happens to the total resistance if you connect the resistors in parallel?
3. Use your results to try and write some rules for working out the total resistance of networks.