

Progression toolkit: Paying for electricity

Learning focus	The amount of energy that an electrical appliance transfers is proportional to time; and its power is proportional to the potential difference across it <i>and</i> the current through it.				
As students' conceptual understanding progresses they can:	CONCEPTUALPROGRESSIO Describe the difference between energy transferred and power. P	Describe how the power of an electric circuit depends on current through it.	Explain why the power of a component depends on the potential difference across it.	Explain the relationships I = Q/t and V = E/Q.	Explain why power of a component can be calculated using P = I x V.
Diagnostic questions	Calculating energy	Power and current	Power and p.d.	Defining current Defining p.d.	- Mystery circuit
Response activities		Rope power		Dotty rope	Mains power

Key: P

Prior understanding from earlier stages of learning



Bridge to later stages of learning

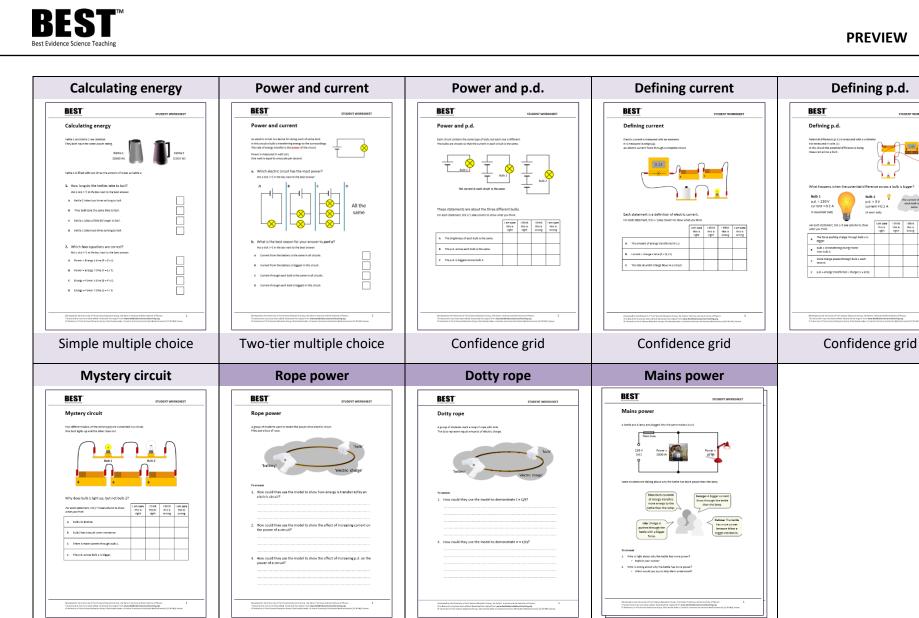
Developed by the University of York Science Education Group, the Salters' Institute and the Institute of Physics. This document may have been edited. Download the original from www.BestEvidenceScienceTeaching.org

© University of York Science Education Group. Distributed under a Creative Commons Attribution-NonCommercial (CC BY-NC) license.





Bulb 2 p.d. = 3 V current = D.2 A (4 toth bulb)



Clarifying -

demonstration/modelling

Clarifying -

demonstration/modelling

Confidence grid



Talking heads