

## **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

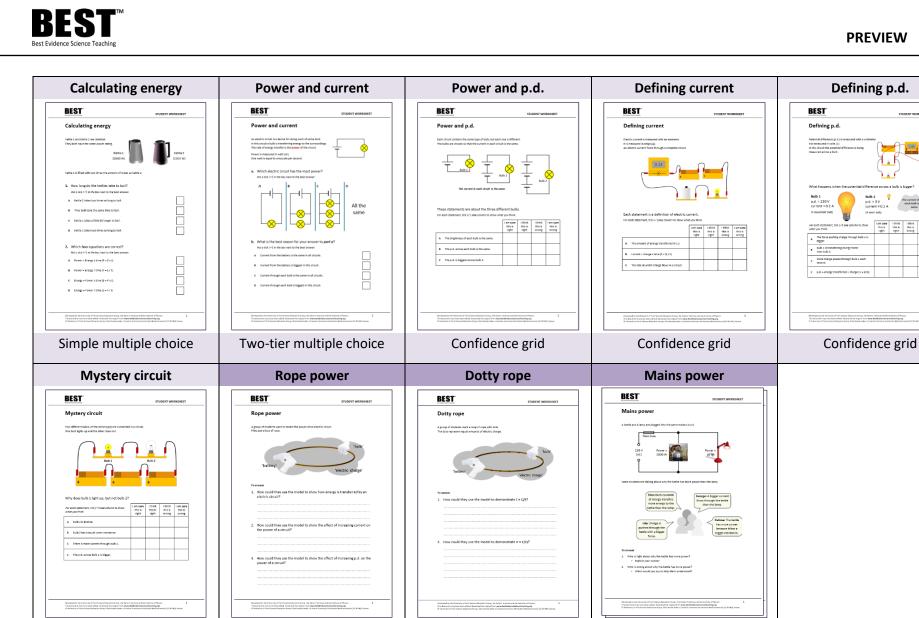
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Bulb 2 p.d. = 3 V current = D.2 A (4 toth bulb)



Clarifying -

demonstration/modelling

Clarifying -

demonstration/modelling

Confidence grid



Talking heads