Y9 PHY	9J Energy and Electricity Learning Checklist	I can do this already	Covered in Class	Strength or weakness?	Revised it?
Static electricity	**Developing:** Describe an atom using a sketch and keywords.				
	Securing: Explain how an atom can become positively charged.				
	Securing: Describe how charged objects affect one another.				
	Extending: Explain how a statically charged object is able to attract some neutrally charged objects.				
	Extending: Explain how the Van de Graaf generator creates a static electric charge				
Electric current	**Developing:** Accurately draw circuit diagrams for series and parallel circuits, using the correct symbols.				
	Developing: State what is meant by Electric current.				
	Securing: Build series and parallel circuits correctly, placing ammeters correctly to measure current.				
	Securing: Identify and memorize rules for current in series and parallel circuits.				
	Extending: Explain why rules for current in series and parallel occur.				
	Extending: Make predictions using rules for current.				
Cells in circuits	**Developing:** Describe the energy transfer which occur in a chemical cell.				
	Securing: Explain why chemical cells eventually go 'flat'.				
	Extending: Describe and explain the design of comerical 'dry' cells.				
Energy in circuits	**Developing:** Draw a circuit diagram showing voltmeter(s) correctly positioned.				
	Developing: Describe how the number of cells in a battery changes the battery voltage.				
	Securing: Describe how battery voltage is shared in a series circuit.				
	Extending: Write an algebraic expression to describe the way voltage is shared around a series circuit.				
Resistance	**Developing:** State what is meant by Electrical resistance.				
	Developing: Describe how both resistance and supply voltage affect current				
	Securing: Use the resistance equation to both predict and investigate resistance.				
	Extending: Explain the cause of resistance using the free electron model.				
Factors affecting resistance	**Developing:**State two factors which affect the resistance of a wire.				
	Securing: Describe the effects of length and cross-sectional area (thickness) on the resistance of a wire				
	Extending: Explain the effects of length and cross-sectional area on the resistance of a wire using the free electron and atomic models.				
Modelling circuits	**Developing:** Describe at least one model for electric circuits (e.g. the Coal truck model) and relate its key features to circuits.				
	Developing: Describe the energy transfer which occur in various circuit components.				
	Securing: Analyse a circuit model and identify its good and bad features.				
	Extending: Describe how a circuit model can be improved.				
	Extending: Develop your own circuit model.				