

Colton Hills Community School medium term planning

Topic title: .. P2 Electricity	Year: ... 10 Term: ...Autumn	Why we teach this: ... To understand how electricity works and how we use it	Why we teach this here: ... This builds on our understanding of atoms and forces so that we can start to look at how electricity affects our lives, from inside a wire to throughout the country.
Big questions: <ol style="list-style-type: none"> 1) What are circuit symbols? 2) How does charge flow? 3) What is Ohm's law? 4) How do series and parallel circuits work? 5) Why do we use plugs? 6) What is the National Grid? 	Builds on previous topics: ... KS3 Physics, P1 Energy	Links to future topics: ... P7 Electromagnetism	
Skills developed: Researching information, make predictions using scientific knowledge and understanding, analyse observations and data using tables and graphs, select, plan and carry out the most appropriate types of scientific enquiries to test predictions, including identifying independent, dependent, and control variables where appropriate. Application of knowledge, making links, critical evaluation.	Key knowledge Triple <ul style="list-style-type: none"> - Circuit symbols and current - Flow of charge - Series circuit - Resistance and $V=IR$ - Required practical 3 - Ohm's Law - Resistance of components - Required practical 4 - Series and parallel - Properties: series circuits and parallel circuits - Plugs and live wires - Power - Electrical energy stores - AC and DC and National Grid - Static charge and sparks - Electric fields 	Key knowledge Combined: <ul style="list-style-type: none"> - Circuit symbols, current and flow of charge - Series circuit - Resistance and $V=IR$ - Required practical 2 - Ohm's Law - Resistance of components and finding resistance - Required practical 3 - Circuits and the properties of a series circuit - Properties: parallel circuits - Resistance in circuits, AC and DC - Plugs and live wires - Power - Electrical energy stores and work done - National Grid 	
Mini/Interim assessments: <ul style="list-style-type: none"> - Multiple choice questions - Retrieval questions Termly summative assessment: <ul style="list-style-type: none"> - End of topic test 	Independent study tasks/resources: <ul style="list-style-type: none"> • Oak Triple https://teachers.thenational.academy/units/electricity-f083 • Oak Combined H https://teachers.thenational.academy/units/electricity-ht-761e • Oak Combined F https://teachers.thenational.academy/units/electricity-ft-0d27 • Triple H https://app.senecalearning.com/classroom/course/fe56ca00-05aa-11e8-9a61-01927559cfd5 • Triple F https://app.senecalearning.com/classroom/course/2670ac10-1d69-11e8-bf76-f14a3ef7c0e6/section/cf3201e0-1d6a-11e8-8e43-0b8b5e91224a/session • Combined F https://app.senecalearning.com/classroom/course/f4627c20-1e1d-11e8-b99c-3168302284d4/section/879262d0-1e1e-11e8-b99c-3168302284d4/session • Combined H https://app.senecalearning.com/classroom/course/e7813cch-376e-4375-9477-e8bdadd262ba/section/4ee71246-5bc9-daf1-b3ba-6bc61d9277c6/session 	Key vocabulary 1: Resistance Current Charge Flow Voltage Potential difference Parallel Series Circuit symbols Electrons	Key vocabulary 2: Insulators Conductors Switch Ammeter Voltmeter Energy store Plugs Live Earth Neutral
Cultural capital opportunities: ... Technological advances https://www.iop.org/explore-physics/technology-our-lives , history of technological advances https://spark.iop.org/collections/stories-physics-electricity-magnetism	Whole school Curricular Concept links: ... technological progress and civic responsibility		

<u>Week/ Phase</u>	<u>Key Features</u>	
1	Small Questions: ...	
	Key Activities/Resources: ...	Retrieval focus: ...
		Independent study: ...
2	Small Questions: ...	
	Key Activities/Resources: ...	Retrieval focus: ...
		Independent study: ...
3	Small Questions: ...	
	Key Activities/Resources: ...	Retrieval focus: ...
		Independent study: ...

<u>Week/ Phase</u>	<u>Key Features</u>	
4	Small Questions: ...	
	Key Activities/Resources: ...	Retrieval focus: ...
		Independent study: ...
5	Small Questions: ...	
	Key Activities/Resources: ...	Retrieval focus: ...
		Independent study: ...
6	Small Questions: ...	
	Key Activities/Resources: ...	Retrieval focus: ...
		Independent study: ...