

Year 7 Physics | Term 5

What is electricity?

Topic Overview: Electric charge is a fundamental property of matter everywhere. Understanding the difference in the microstructure of conductors, semiconductors and insulators makes it possible to design components and build electric circuits. Many circuits are powered with mains electricity, but portable electrical devices must use batteries of some kind. Electrical power fills the modern world with artificial light and sound, information and entertainment, remote sensing and control. The fundamentals of electromagnetism were worked out by scientists of the 19th century. However, power stations, like all machines, have a limited lifetime. If we all continue to demand more electricity this means building new power stations in every generation – but what mix of power stations can promise a sustainable future?

	Lesson Exploration	Knowledge & Skills	Key Words
Week 1: Lesson 1	INSET		Circuit Series Parallel Bulb wire switch Resistor Voltmeter Ammeter
Week 2: Lesson 1	Do opposites attract?	KN23: To understand how the separation of positive and negative particles occur when objects are rubbed together	
Week 3: Lesson 1	How can you stick a balloon to a wall without Blu-Tac?	KN23: To understand how the separation of positive and negative particles occur when objects are rubbed together	
Week 4: Lesson 1	What is electrical current and how is it measured?	SK18: Describe the different ways current behaves between parallel and series circuits.	
Week 5: Lesson 1	What can we put in an electrical circuit?	KN: Components of the circuit	

Week 6: Lesson 1	What is resistance?	SK20: Use the formula to calculate resistance.	
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Literacy Links	Numeracy Links
Paul Parsons – Science in 100 Key Breakthroughs Paul Parsons – Science 1001: Absolutely Everything that Matters in Science Young Scientist Journal - www.butrousfoundation.com/ysjournal School Science - www.schoolscience.co.uk BBC Bitesize - www.bbc.co.uk/bitesize/ks3/science/	understand and use SI units and IUPAC (International Union of Pure and Applied Chemistry) chemical nomenclature. Comparison of magnitude of different values Unit conversions