Subject	Year	Term
Science	11	3

Topic

11P3 Magnetism

Content (Intent)

Prior Learning (Topic) 8P1 Electricity and Magnetism

- Draw and describe the shape of a magnetic field around a permanent magnet
- Link density of field lines to strength of magnetic field
- Describe the structure of an electromagnet
- Explain how an electromagnet works
- Describe how the strength of an electromagnet can be changed
- Describe Fleming's Left Hand Rule and use it to predict the direction of the force on a current-carrying wire in a magnetic field
- Describe the structure of an electric motor
- Explain how an electric motor works
- Describe the function of transformers and how they help reduce energy losses in the national grid
- HT: Know and use the transformer equation

Future Learning (Topic) A level topic 7 - Fields

How will knowledge and skills be taught? (Implementation)	How will your understanding be assessed & recorded (Impact)
Demos: compasses around wires/coils to show field. FLHR demo with rolling wire and magnet. Large model motor. Model of the national grid. **Practical work:** Field around a permanent magnet. Building and testing electromagnets. Building motors. Building transformers. **Written:** Notes and completed worksheets in exercise books.	- 2 x standard homeworks (Level given. Written feedback. Response expected.) -1 x end of topic test (Level given. Verbal feedback to class and individuals.)

How can parents help at home?

Look at the topic specific resources on the VLE
Use appropriate youtube channels: cognito, primrosekitten, khan academy, freesciencelessons.
Take an interest! Ask your children what they have learnt and be curious about their learning.

Helpful further reading/discussion

Reading	Vocabulary Lists	Careers Links
Compass by Alan Gurney Longitude: The True Story of a Lone Genius Who Solved the Greatest Scientific Problem of His Time The Invisible Rainbow: A History of Electricity and Life	Permanent magnet Ferrous Soft iron Field lines North and south Iron core Turns	Physicist Engineer Environmental engineering Energy companies

	Coil Current Force Split ring commutator Potential difference Primary and secondary coils Thermal/internal energy	