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| **Lesson Number: 25.1** |
| **Lesson Title: Electromagnetic Induction** |
| **Specification Reference** | **3.7.5.4** |
| **Learning Objectives** |
| Applications such as a straight conductor moving in a magnetic field. |
| **Opportunities for Assessment** |
| Page 412 questions |
| **Starter:** | Slide #1 recaps the components of a dynamo or motor |
| **Main:** | Slide #2 explains the components in more detail and how to increase the output of a dynamo or motor (in reverse)Demonstrate the bar magnet in a coil of wire with a micro-ammeter hereSlides #3 - #4 explain the differences between a motor and a dynamoSlide #5 can be used to set homework in researching Michael Faraday – it also highlights the importance of scientific research for research sake; nobody knows what CERN will discover or more importantly what those discoveries will be used for hundreds of years in the future.Slide #6 introduces Flemming’s Right-hand rule – recap the left-hand rule if necessary |
| **Plenary:** | Slide #7 is a summary |

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| **Homework:** | Page 412 questions; Research the life of Michael Faraday |
| **Differentiation / Extension / S&C** |
| Extended discussion on the opinions of research; do goals limit research? |
| **Numeracy / Literacy** | **SMSC / Fundamental British Values** |
| N/A | Research and funding implications |
| **RESOURCES:** |
| Demonstration:* Bar magnet
* Coil of wire
* Micro-ammeter

Optional Demo:* Dynamo / motor on a circuit board with a crank to turn
* Bulb and connecting wires
 |
| **Risk Assessment** e.g. CLEAPSS card reference |
| None |
| **Working Scientifically (HSW)** |
| N/A |

Pictures courtesy of:

Slides #1 and #3 – Wikipedia

Slide #4 – Patrik Nygen: <https://www.flickr.com/photos/lattefarsan/18189497353>

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