High Tunstall College of Science Curriculum Intent

Subject: Physics Year: 11

Magnetism and Electromagnetism

	Physics Thread	Progress		
Topic	**Key ideas**	**R**	**A**	**G**
Magnetism and electromagnetism	I can draw a magnetic field and identify north and south poles based on direction of field lines			
	I can Explain how the left and right hand grip rule is used.			
	I can explain why a coil spins using a permanent magnet and a coil carrying current.			
	I can explain how the motor effect can be used to produce sound waves			
	I can explain how a current and potential difference is induced using a permanent magnet, a coil of wire and movement.			
	I can explain how a microphone uses electromagnetic induction from sound saves.			
	I can draw and label step-up and step down transformers and explain how they work,			

Lesson	Learning Focus	Assessment	Key Words
1	Review of magnetic fields and field lines	Draw a magnetic field and identify north and south poles based on direction of field lines. Formative questioning, exam questions and summative tests.	Field Line, Pole, Magnetism
2	Investigation and exploration of the right hand grip rule and left hand rule	Explain how the left and right hand grip rule is used. Formative questioning, exam questions and summative tests.	Interaction, Temporary, Permanent, magnetic field, electromagnetic
3	Understanding the motor effect	Explain why a coil spins using a permanent magnet and a coil carrying current. Formative questioning, exam questions and summative tests.	Current, magnetic field, repulsion, pole
4	Applying the motor effect to loudspeakers	Explain how the motor effect can be used to produce sound waves. Formative questioning, exam questions and summative tests.	Current, magnetic field, repulsion, frequency, compression rarefaction
5	Review of electromagnetic induction and application to dynamo's and alternators.	Explain how a current and potential difference is induced using a permanent magnet, a coil of wire and movement. Formative questioning, exam questions and summative tests.	Magnetic field, induce, potential difference , vector
6	Apply electromagnetic induction to microphones	Explain how a microphone uses electromagnetic induction from sound saves. Formative questioning, exam questions and summative tests.	induce, potential difference frequency, compression rarefaction
7	Apply electromagnetic induction to transformers.	Draw and label step-up and step down transformers and explain how they work, Formative questioning, exam questions and summative tests.	Magnetic field, induce, potential difference , vector