

Student-teacher:		Class / Group:	Science- Year 7R
AoLE or Subject:	Questioning how electricity works in physics through positive and negative charges.	Date:	20/10/22
Meaningful links to Curriculum (What Matters Statements, Descriptions of learning, previous curriculum...)	Physics - Ability to understand Electricity . To also use a experiments to correctly identify how charges move through negative and positive charges. Static electricity - insulators are rubbed together, they become electrically charged. Rubbing two insulators together to change their charge Magnets - The rule to remember is that opposites attract. Every magnet has both a N and a S pole. When you place the north pole of one magnet near the south pole of another magnet, they are attracted to one another.		
Four Purpose driver: (Remember to go ‘beyond the headlines’. Only main links should be identified here)	• Ambitious Capable Learner - Applying skills learnt into real life contexts to enhance current knowledge - Communicate ideas, and ask meaningful questions - Using a practical to demonstrated understanding		
Meaningful links across the curriculum <i>Links to other AoLEs or the Cross-curricular skills frameworks</i>	• Speaking – Discussion groups to relay own ideas and opinions on the topic • Spelling - Using new and recalled academic vocabulary in sentences • Demonstrating – working as groups/individuals to produce accurate results from partaking in a practical Key words; Electricity, polarity, insulators		
Personal Targets (make reference to targets identified in Planning Guide or QTS Professional Standards and weekly mentor meetings. You may also draw from targets linked to the Welsh Language Competency Framework)			
12pp= Collaboration, making connections, responsibility of own learning			

Learning Objectives

- explain what electricity is
- explain how magnets work
- use experiments to show how charges move

To understand what a 'electricity' is through positive and negative charges

If time: To use new key words in discussions

MAT: To design or reproduce an already existing diagram of magnet polarity (what magnet attracts what?)

Success Criteria (6:42 on video)

Help pupils develop a deep understanding of what they are supposed to learn, help them understand what success will look like, how the lesson's tasks relate to the objective.

Planning for misconceptions:

Every lesson holds the promise of both learning and mistakes. Use this section to anticipate pupil errors and your responses to them and seek guidance if required.

- . The differences between positive and negative charges
- . Incorrect understanding of north pole attracting south pole on a magnet
- . Forget about how insulators do carry a charge

https://spark.iop.org/misconceptions?f%5B0%5D=search_misconceptions_domain%3A446

<https://www.stem.org.uk/secondary/resources/collections/science/best-evidence-science-teaching/electricity-magnetism>



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SEQUENCE OF TEACHING & LEARNING

(Add or remove rows below as appropriate)

Considering the feedback above. What is problematic about the plan below?

Timing: <i>Break down timings into groups if appropriate. Consider pace, engagement levels (ensure pupils are 'doing' quickly), managing transitions</i>	Role of the teacher & support staff: <i>e.g., key questions, retrieval of prior learning (What previous learning needs to be revisited in today's lesson?), modelling and explanations, checking understanding, planned use of additional adults. Choice of pedagogical model or of the 12 pedagogical principles</i>	Pupil's learning: <i>What will the pupils be doing and what learning will be taking place? Consider CHUNKING (too much information can limit learning)</i>	Inclusive Strategies (including differentiation): <i>'Focus on the what is to be taught, (and how) rather than who is to learn it' (Florian, Black-Hawkins, 2011). Make appropriate reference to resources which support this. Reasons for, and details of scaffolding. Types of representation in tasks?</i>	Checking what pupils know, understand, and can do: <i>key questions, self, and peer assessment opportunities, effective AfL strategies, live marking opportunities, planned feedback. Types of Retrieval Practices?</i>
9:10 – 9:30 spelling	Go around the class check if all pupils are partaking and listening to spelling when given. (checking for possible wrong spelling)	Learning important key spelling, that will help with academic writing tasks.	Take time to read out each spelling and making sure each pupil has enough time to write out spelling.	Self and peer assessment of their own work and others to see what they can improve on (marking others spellings)
9:30 – 9:35 Spider diagram (Starter)	Asking pupil for their input and making sure they have a few ideas written down.	A starter to get the pupils thinking about the lesson. Will get the pupils contributing to the class. (Different items you have used so far today that need electricity)	Make sure each child is busy and writing. Make sure everyone's ideas are taken onboard	Planning and feedback skills will be shown as pupils will have time to come up with their own ideas, before

				contributing idea to the class.
9:35 – 9:50 Balloon practical / explaining	Having pupils groups (pairs of two). Make sure each pair has one balloon and paper between	Practical to get the pupils thinking, demonstrating how static electricity works. Having the children <u>visualise</u> how positive and negative charges attracted each other. (I can use experiments to show how charges move)	Learners do the experiment so they can fill in a worksheet. Put key words and a diagram on the screen so that learners all complete their workbook	From the experiment, communication skills and groups skills will be observed. The pupils will need to extract their answers The pupils will need to listen to the instruction
9:50 – 10:10 Work sheet	Making sure each pupil has one work sheet to work on. Make sure each pupil understands the task, make sure the pupils are completing the task correctly.	Having the pupils fill in their work sheets on magnets. Using knowledge from magnets demonstrated their knowledge by showing how north pole and south pole reacted (pull together).	Make sure each child understands what the work sheet is asking from them. Making corrections as a group, so everyone can make changes to their work together. (including every mistake)	Pupils will demonstrated problem solving skills by completing the worksheet by themselves. Pupils will demonstrated listening skills by understanding how to complete work sheet from instructions Self-assessing skills, marking their own work and answering their questions on their own.



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Evaluation of the Learning Experience

There should be evidence of reflection and discussion on each lesson in your learning journal. You are welcome to use the questions below to support this.
*Please complete the evaluation section below for **two** of your lessons each week.*

What prior learning has taken place?	•
What did the pupils learn in this lesson and how do you know?	•
What will the pupils learn next? How will this lesson impact on future learning (will they need to return and consolidate)?	•
How did this lesson plan promote pupil learning and pupil confidence?	•
Reflective Analysis of Teaching and Strategies for Development	
Personal Targets for Progress (make reference to targets identified in Planning Guide or QTS Professional Standards and weekly mentor meetings. You may also draw from targets links to the Welsh Language Competency Framework)	•